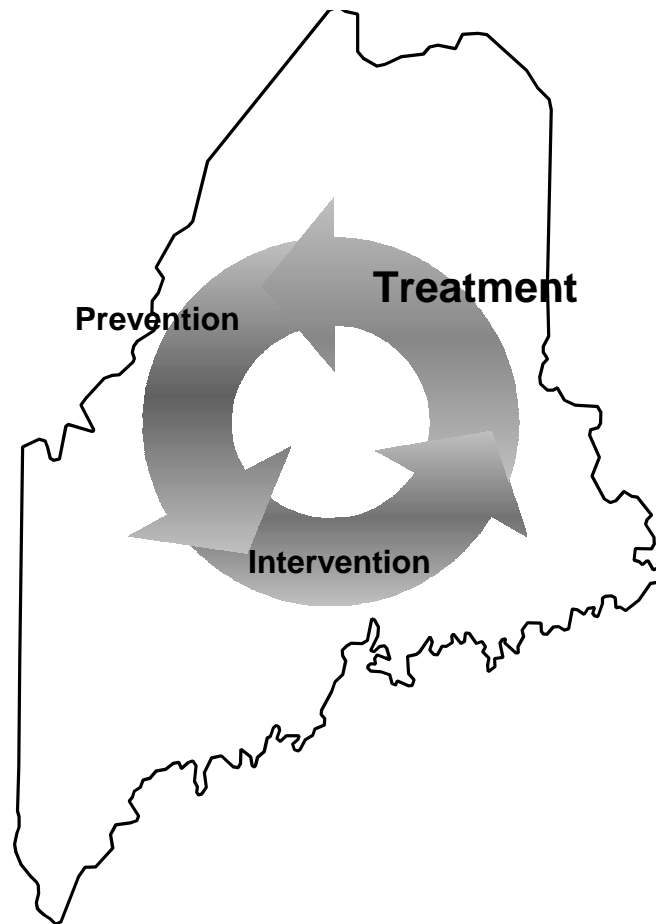


# **State of Maine**

## **Substance Abuse Treatment Needs Assessment**



### **Study 2: Use of Alcohol and Illicit Drugs and Need for Treatment Among Maine Adult Arrestees**

Maine Office of Substance Abuse  
Department of Mental Health, Mental  
Retardation, and Substance Abuse Services  
December 1998

# **State of Maine**

## **Substance Abuse Treatment Needs Assessment**

### **Study 2: Use of Alcohol and Illicit Drugs and Need for Treatment Among Maine Adult Arrestees**

## **FINAL REPORT**

Prepared in Collaboration with  
the  
**Maine Office of Substance Abuse**

by

#### **Research Triangle Institute**

Arthur J. Bonito  
Mindy H. Stahl  
H. Wayne Dunn  
Debra Brucker  
J. Valley Rachal

**Maine Office of Substance Abuse**  
Department of Mental Health, Mental  
Retardation, and Substance Abuse Services

**December 1998**



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For further information, contact:

Maine Office of Substance Abuse  
Information and Resource Center  
#159 State House Station  
A.M.H.I. Complex  
Marquardt Building, 3rd Floor  
Augusta, Maine 04333-0159

Web: <http://janus.state.me.us/dmhmrso/osa>

E-mail: [osa.ircosa@state.me.us](mailto:osa.ircosa@state.me.us)

Phone: 1-800-499-0027

TTY: 207-287-4475

TTY (Toll free in Maine): 1-800-215-7604

December 1998



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# **State of Maine Substance Abuse Treatment Needs Assessment**

## **Study 2: Use of Alcohol and Illicit Drugs and Need for Treatment Among Maine Adult Arrestees**

### **Executive Summary**

**Prepared by  
Maine Office of Substance Abuse  
DMHMRSAS  
and  
Research Triangle Institute**

#### **Introduction**

This summary presents highlights from the 1997 Maine Adult Arrestee Survey, a study of adults booked and detained in the Cumberland and Penobscot County jails. It was conducted as part of a family of studies referred to as the State of Maine Substance Abuse Treatment Needs Assessment Project. This family of studies was designed to provide information to the state about the need for alcohol and drug treatment, and the degree to which this need is being met by the current treatment system. The information is critical for deciding the allocation of available substance abuse treatment resources and planning for future treatment services.

The specific goals of the 1997 Maine Adult Arrestee Survey were to

- estimate the prevalence of substance use and other high-risk behaviors among adult arrestees detained in two county jails;
- estimate the percentage of arrestees who were in need of treatment or intervention services related to their use of alcohol or illicit drugs;

- examine arrestees' experience with treatment services, their perceived need for treatment, and what they perceive as barriers to treatment; and
- examine the association of substance use and the need for treatment with other problems.

#### **Study Methods**

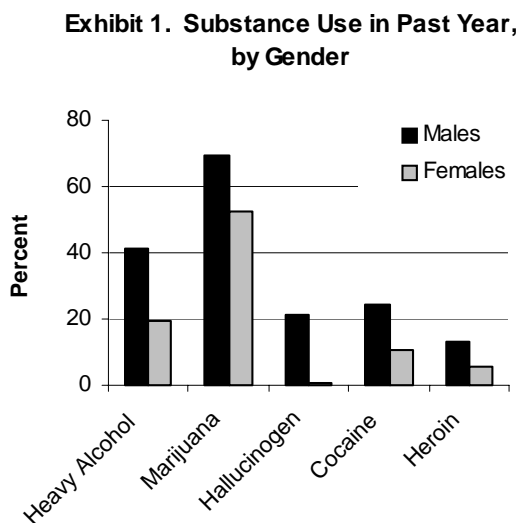
The Cumberland and Penobscot County jails book and process by far the largest number of arrestees in the state of Maine—3,080 during the period of the study. Although a sample of arrestees from these jails is not presumed to be representative of all arrestees in the state of Maine, it can still provide important information regarding arrestees and their substance abuse to serve statewide treatment services planning purposes.

Information presented in this report is based on interviews with 438 male and 67 female adults aged 18 or older who were arrested and detained for crimes other than misdemeanor traffic offenses and warrants or commitments. These 505 adults represent nearly 55% of the eligible arrestees available for interview after booking—detained and not released on bail and not too intoxicated to be

interviewed—but only about 16% of the total number of persons arrested during the study period. Respondents were asked questions about their demographic characteristics and household composition; current arrest charge, lifetime arrests, and family arrest history; lifetime and recent drug use; problems related to their use of alcohol or illicit drugs; their substance abuse treatment needs; and the treatment received for problems related to substance abuse. More than 40% of the respondents also provided a urine sample for drug testing. Data for the study were collected during 9 months from mid-November 1996 through mid-August 1997.

### Substance Use

Overall rates of alcohol and illicit drug use among male and female arrestees, for both lifetime and more recent periods, were very high. As can be seen from Exhibit 1, about 40% of males and almost 20% of females reported heavy alcohol use in the past year. Approximately 80% of male and female arrestees reported some alcohol use in the past month.



In terms of **core illicit drug use**, about 90% of male and female arrestees reported use of one or more of the following in their lifetime: marijuana, hallucinogens, cocaine, and heroin.

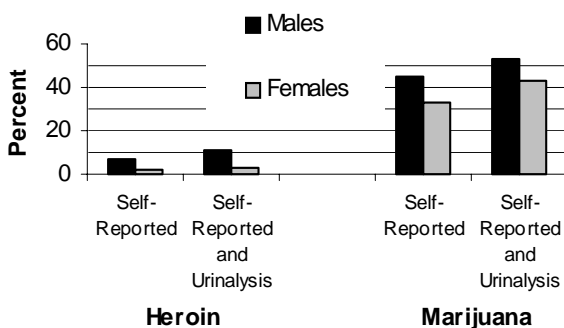
Exhibit 1 also presents reported core illicit drug use in the past year. Marijuana is the core illicit drug used more than any other by both males (70%) and females (53%). Male arrestees were much more likely than females to report having used other illicit drugs in the past. While 25% of males used cocaine, only 10% of females said they had. Heroin use was reported less frequently by both male (13%) and female (6%) arrestees. Hallucinogen use is clearly more the domain of male (21%) than female (1%) arrestees.

The percentage of arrestees who reported illicit drug use remained high even for the past month. Nearly 50% of the males and almost 25% of the females reported use of at least one of the core illicit drugs in the previous month. Marijuana and cocaine were the two drugs most commonly reported. More than 40% of males and about 25% of females reported using **marijuana** in the past month, whereas approximately 10% of males and just slightly more than 2% of females reported past month **cocaine** use.

Results from **urine tests** confirmed the widely held belief that estimates of drug use based on self-reports alone are understated, especially for heroin use among males. As can be seen from Exhibit 2, adjusting the prevalence estimates of use in the past month so that either a positive urine test or a positive self-report indicates use, the estimated rates of heroin use increased considerably from nearly 7% to almost 11% among males, and doubled from less than 2% to more than 3% among females. Although the change in the marijuana use rate from urinalysis represents a smaller percentage increase for both genders, it nonetheless increased the rate of use from 45% to 53% and from 34% to 43% for males and females, respectively. However, estimates of alcohol and cocaine use were barely increased by 1% from their self-reported levels with the addition of urinalysis.

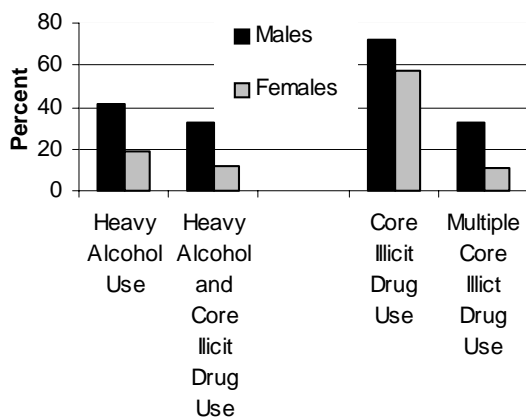
It also should be noted that a large proportion of respondents who reported either heavy alcohol use or use of at least one illicit drug in fact reported

**Exhibit 2. Self-Reported and Urinalysis Supplemented Self-Reported Heroin and Marijuana Use in Past Year, by Gender**



using multiple substances. As can be seen in Exhibit 3, almost 80% of male arrestees who reported heavy alcohol use in the past year also reported use of at least one core illicit drug in that time. The corresponding percentage for female arrestees was just over 65%. In addition, just under 45% of the males and less than 20% of the females who reported core illicit drug use in the past year also reported using one or more other core illicit drugs in the same time period.

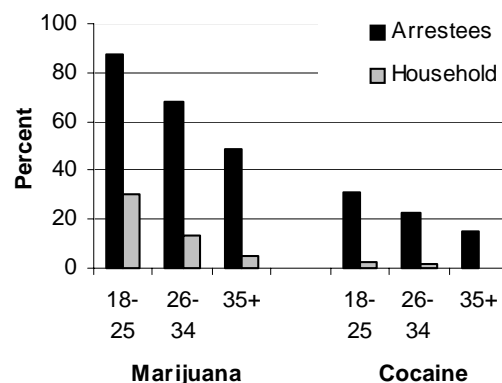
**Exhibit 3. Multiple Substance Use Among Heavy Alcohol and Core Illicit Drug Users, by Gender**



## Arrestees and the Household Population

Rates of substance use among arrestees are substantially higher than those found among the adult household residents in the 1997 Maine Adult Household Telephone Survey. Exhibit 4 illustrates this for marijuana and cocaine use. It is also interesting to note that although the rate of use declined with age for both arrestees and household residents, the differential in rates between arrestees and household residents increased with age. For example, despite the rates of cocaine use in the past year declining with age, they were nearly 11 times higher for arrestees compared to household residents among 18 to 25 year olds, but they were more than 14 times higher among 26 to 34 year olds, and they were more than 50 times higher in the 35 or older age group.

**Exhibit 4. Comparison of Marijuana and Cocaine Use Among Arrestees and Household Residents, by Age**



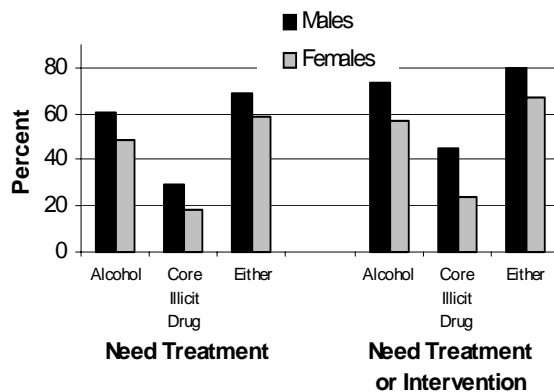
## Need for Treatment

In addition to the overall rates of substance use among adult arrestees, the 1997 Maine Adult Arrestee Survey also estimated the need for alcohol or drug treatment and the use of treatment. Drug and alcohol use severe enough to qualify for a **diagnosis of substance abuse or dependence** during the lifetime was noted among approximately 60% of males and females. However, more than 50% of the respondents continued to use the

substance in the past year and to have problems related to use of these substances.

Exhibit 5 shows that nearly 70% of male and 60% of female adult arrestees in Maine were determined to be in need of drug or alcohol treatment in

**Exhibit 5. Need for Substance Abuse Treatment or Intervention in Past Year, by Gender**



the past year. When the definition of “need” was expanded to include some sort of intervention or treatment, the percentage of arrestees determined to be in need rose to approximately 80% and 70% for males and females, respectively.

These estimates demonstrate that not only were the rates of use of alcohol and illicit drugs particularly high among the arrestee population in Maine, but also that the proportion of arrestees engaging in patterns of substance use that suggested a need for substance abuse services was substantial. In addition, both substance use and the need for drug or alcohol treatment were found to be related to increased involvement with the criminal justice system. Approximately 50% of arrestees who reported heavy alcohol or illicit drug use had been arrested two or more other times in the past year as compared to approximately 25% of arrestees who reported no alcohol use or no illicit drug use. The need for treatment is considerably greater among arrestees with multiple earlier arrests.

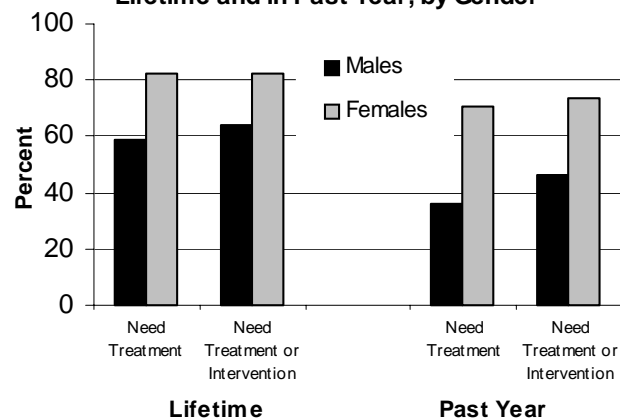
Much of the same relationship exists between heavy alcohol or illicit drug use and risky sexual practices such as having multiple sexual partners. Nearly 40% of arrestees who reported heavy alcohol use or use of illicit drugs also reported having three or more sexual partners in the past year, as compared to arrestees who reported no alcohol or illicit drug use, only 15% of whom reported having three or more sexual partners. The need for treatment is almost twice as great among arrestees reporting three or more sexual partners.

### Unmet Need

Finally, a key finding in this report is that there is a substantial need for drug or alcohol treatment or intervention among arrestees that is not currently being met. Overall, about 48% of arrestees had received some treatment or assistance for problems with alcohol or drug use during their lifetime, and slightly less than 35% had received treatment or intervention in the past year.

From Exhibit 6, it is clear that when the history of treatment or intervention was examined specifically for those in need of alcohol or drug treatment over their lifetime, only 60% of males and 80% of females in need received treatment or intervention. However, only about 35% of male arrestees determined to be in need of alcohol or drug treatment in the past year actually received treatment during that time. This leads to the conclusion that almost 65% of male arrestees in need of drug or alcohol treat-

**Exhibit 6. Arrestees Who Needed and Received Treatment or Intervention During Lifetime and in Past Year, by Gender**



ment during the past year had not received any, indicating a substantial amount of unmet need. When receipt of treatment or intervention is considered, the proportion of males with unmet need drops to 55%. A much larger proportion of female arrestees in need of treatment—more than 70%—actually received it in the past year. However, it cannot be determined what percentage of those experiencing an “unmet” need for treatment would have actually sought or accepted treatment if their need had been identified and treatment services had been made available and accessible to them.

### **Policy Implications and Recommendations**

The 1997 Maine Adult Arrestee Study demonstrates rather extensive substance abuse among persons arrested and detained in the Cumberland and Penobscot County jails. In particular, the high rates of heavy alcohol and marijuana use are in marked contrast to the situation reported for the general population in the 1997 Adult Household Telephone Survey. This suggests an acute need for alcohol and drug treatment or intervention services among the arrestee population. The Maine Adult Arrestee Study also documents that almost three-quarters of the arrestee population needing drug or alcohol treatment are not receiving any.

This study reports that substance abusing arrestees have had more arrests in the past year than those not using alcohol or drugs. In addition, the study confirms a greater need for substance abuse treatment or intervention among arrestees with multiple recent arrests. Continued substance abuse thus appears to be a risk factor for continued criminal activity. The findings are equally revealing with respect to the association between substance abuse and having numerous sexual partners. Substance abusing arrestees more often reported having three or more sexual partners in the past year than arrestees who abstained. Further, arrestees who reported having three or more sexual partners also had a greater need for substance abuse treatment or intervention. Continued substance abuse thus represents a public health risk for the spread of HIV/AIDS and other sexually transmitted diseases.

The concentration of persons in county jails who are in need of substance abuse treatment or other intervention presents the state of Maine with an excellent opportunity. These findings suggest the need to expand the focus of existing jail diversion programs and Drug Courts. Drug Courts are an efficient venue to screen and direct those most in need of treatment to an appropriate level of available service. Arrestees with substance abuse problems would thereby have a wider range of treatment options available to them—seek treatment in lieu of incarceration, receive treatment within the jail system, and continue treatment in the outside community upon early release. With such a system in place, the progress of arrestees could be supported and monitored according to an established protocol. To balance the incentive to participate and to encourage the expected level of treatment success, there would be a fail safe mechanism which would return those who fail to meet expectations to a corrections facility to complete their full jail sentence.

For further information, contact:

Maine Office of Substance Abuse  
DMHMRSAS  
Information and Resource Center  
#159 State House Station  
A.M.H.I. Complex  
Marquardt Building, 3rd Floor  
Augusta, Maine 04333-0159

Web: <http://janus.state.me.us/dmhmrso/osa>  
E-mail: [osa.ircosa@state.me.us](mailto:osa.ircosa@state.me.us)  
Phone: 1-800-499-0027  
TTY: 207-287-4475  
TTY (Toll free in Maine): 1-800-215-7604

## **1.0 INTRODUCTION**

This report presents findings about the use of alcohol and illicit drugs and the need for treatment among Maine adults arrested and detained in the jails of two of Maine's largest counties. It provides information on (a) the percentage of arrestees using alcohol and illicit drugs, (b) the demand and need for treatment or intervention for alcohol or illicit drug use among this population, and (c) the co-occurrence of substance use and other problems. This investigation is part of Maine's demand and needs assessment project conducted by the Maine Office of Substance Abuse (OSA), within the Department of Mental Health, Mental Retardation, and Substance Abuse Services (DMHRSAS), and Research Triangle Institute (RTI) of North Carolina. Funding for this project was provided by the Center for Substance Abuse Treatment (CSAT).

This report is divided into four chapters. This chapter provides an overview of the Maine demand and needs assessment project, a brief description of the state's population and geography, and a detailed description of the methodology of the current study of alcohol and other drug use, as well as of the measures of need for substance abuse treatment or intervention in the state's arrestee population. This includes a discussion of the survey instrument, sample procedures, and data collection and data processing. Key definitions used in this report and the procedures for data analysis also are described. The remaining three chapters focus on the demographic characteristics of the sample, the prevalence of alcohol and drug use, and the need for alcohol and drug dependence/abuse treatment and intervention, including the co-occurrence of substance use and other problems.

### **1.1 Overview of the Maine Substance Abuse Treatment Needs Assessment Project**

The Maine demand and needs assessment project is a family of studies designed to provide a valid and reliable database of information to facilitate short- and long-term planning and to aid in implementing services to meet population needs effectively and cost-efficiently. The specific objectives of the project have been to:

- develop statewide and regional (substate) estimates of alcohol and other drug treatment needs for the total population and key subgroups;
- determine the extent to which these needs are being met by the current treatment service system;

- develop low-cost, valid methodologies that can be used by the state in subsequent years to estimate treatment needs; and
- identify key gaps in Maine's data collection efforts relating to needs assessment.

To achieve these goals, the demand and needs assessment project consists of six studies. These studies were selected to achieve broad coverage of Maine's population, to have valid information on met need, and to develop tools that can be used by Maine in future years. The specific studies include a range of methodologies, including telephone interviewing, computer-assisted personal interviewing (CAPI), record abstraction, analytic modeling, and integrative analyses:

- Study 1: Alcohol and Other Drug Household Estimates;
- Study 2: Use of Alcohol and Illicit Drugs and Need for Treatment Among Maine Adult Arrestees;
- Study 3: Estimating Need for Treatment or Intervention Among Youth in Maine Counties: A Synthetic Estimation Approach;
- Study 4: Using Social Indicators to Estimate Substance Use and Treatment Needs in Maine;
- Study 5: Assessment of Maine's Substance Abuse Treatment System: Structure, Capacity, and Utilization, 1997;
- Study 6: Integrated Population Estimates of Substance Abuse Treatment and Intervention Needs in the State of Maine.

Together, these studies provide an important knowledge base for Maine to improve its efforts to meet treatment needs and to allocate its resources. Copies of the final reports for each of these studies can be obtained from the Office of Substance Abuse (see Acknowledgments on p. iii for address).

## **1.2 Maine's Population and Geography**

In 1995, Maine had a population of about 1,241,000 residents (U.S. Bureau of the Census, 1996). About two-thirds of the population live in rural areas. Although the majority of the state's population reside in rural areas, more than 96% of the occupied housing units in 1990 had telephones (U.S. Bureau of the Census, 1994).



The state has 16 counties and had an average population density of 40 residents per square mile in 1995. Cumberland County, where the City of Portland is located, had the largest population among the 16 counties in 1995 (248,526) and the highest population density (297 residents per square mile). Penobscot County, where the city of Bangor is located, had the third largest population among the counties, with 146,841 people in 1995. Despite the largely rural nature of the state, Maine's population increased by more than 10% from 1980 to 1995.

Racially and ethnically, Maine's population is homogeneous. In 1990, whites comprised nearly 98% of Maine's population (U.S. Bureau of the Census, 1994). Approximately 0.5% of the population in 1990 were Native American, 0.5% were Asian or Pacific Islander, and 0.4% were African American. The majority of the nonwhite population in 1990 resided in Cumberland, Penobscot, Washington, and York Counties.

Franco-Americans make up about 40% of the white population. In addition, 9.2% of Maine's population in 1990 spoke a language other than English at home (U.S. Bureau of the Census, 1994). Based on information from the Maine Department of Labor and 1990 Census data, French is by far the most widely spoken non-English language in Maine. Approximately 7% of the Maine population speak French at home, 0.5% speak Spanish, and 0.5% speak German. The remaining 1.2% of the population who speak a language other than English at home speak some other language (e.g., Polish, Yiddish, Asian languages). However, most of the people who speak a language at home other than English are bilingual and also speak English.

More than 1 in 10 Maine residents in 1989 lived below the poverty level (U.S. Bureau of the Census, 1994). Elderly people, women, and children appear to be disproportionately affected. In 1989, 14% of Maine residents aged 65 or older were below the poverty level, as were 13% of children under 18 years of age. Among female-headed households with children in 1989, 30% had incomes below the poverty level.

With an area of 30,865 square miles, Maine has terrains that consist of mountainous areas, rolling hills, and rugged coast. Maine is bordered by Quebec and New Brunswick, Canada to the north, by New Hampshire to the west, and by the Atlantic Ocean to the east. Traffic flows mainly north-to-south along Interstate 95. Portland and Augusta, the state capital, are located along this route. East-west travel is accomplished via secondary roads. Although substance abuse treatment services are available in most Maine counties, availability of transportation can sometimes be a barrier to receiving treatment. This is particularly the case in the rural counties where public transportation is not readily available. Access to treatment services is usually easier via the major north-south route compared with east-west routes, even though the actual mileage along the north-south route may be considerable.

### **1.3 Overview of Study 2: Treatment Needs Among Adult Arrestees**

This study was designed to examine the need for alcohol and other drug treatment among Maine's adult arrestee population and to provide information useful for estimating the treatment needs among Maine arrestees generally. The primary objectives of this study were to:

- estimate the prevalence of substance use and other high-risk behaviors among adults arrested, booked, and detained in two counties in the state;
- estimate the percentage of these arrestees who are in need of treatment or intervention services related to their use of alcohol or illicit drugs;
- examine arrestees' experience with treatment services, their perceived need for treatment, and the barriers to treatment they receive; and
- examine the association of substance use and the need for treatment with other problems.

The study objectives were met through a survey of persons 18 years of age or older arrested and detained in two sites in Maine—the jails of Cumberland and Penobscot Counties. Respondents were interviewed using computer-assisted personal interviewing (CAPI) in the county jails shortly after they had been arrested. The study also included the collection of urine specimens, which were used to validate self-reports of drug use. In the remainder of this section, we describe the study design, the instrumentation, sampling, data collection, and data processing.

#### **1.3.1 Survey Instrument**

The survey instrument (Appendix A) is comprised of three core sections. An earlier version of this instrument has been used for similar needs assessment studies in other states. In adapting the instrument for the state of Maine, some questions were added, some existing screening logic was restructured, and the time period references and response categories for some items were changed. For the most part, these changes were made to make the data from arrestees comparable to the data collected from Maine adults in the household telephone survey.

The instrument begins with the original Drug Use Forecasting (DUF) survey, which was developed by the National Institute of Justice (NIJ); this survey asks for information on current arrest, basic demographic characteristics, and lifetime and recent drug use (NIJ, 1993, 1995, 1996a, 1996b). The second section (also developed by NIJ) is a heroin addendum to the DUF

survey. This addendum to the survey contains detailed questions on the use of heroin (e.g., mode of administration, costs, and use of heroin with other drugs).

Section three of the instrument is the Substance Abuse and Need for Treatment Among Arrestees (SANTA) survey which was developed by the Center for Substance Abuse Research (CESAR) of the University of Maryland. The SANTA survey is divided into four modules. The first module contains questions about respondents' use of seven drug types (i.e., marijuana, hallucinogens, cocaine, heroin and other opiates, amphetamines, alcohol, and sedatives). The second and third modules include items measuring dependence and abuse for these substances from the third, revised edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R) (American Psychiatric Association [APA], 1987). The fourth module includes items representing American Society of Addiction Medicine (ASAM) criteria for treatment needs.

Only minor alterations were made to the DUF instrument. These typically involved refinements to response categories or changes that made the collected data more comparable to that obtained from the 1997 Maine Household Telephone Survey. Much the same rationale underlay changes to the first two modules of the SANTA instrument, wherein respondents were asked to report their alcohol and drug use for a 12-month, rather than an 18-month, period.

Because officials in the state of Maine wanted more detailed information on the treatment history and demographic characteristics of the sample, several additions were made to the SANTA instrument. First, additional questions concerning treatment were added to the fourth SANTA module. These questions, which were developed for the North Carolina Assessment of the Current Treatment System Study (Luckey & Graham, 1997), focused on types of treatment received, types of providers, facilities where treatment was received, and treatment outcomes. Second, a fifth module was added to the SANTA instrument. This module, developed for the North Carolina Treatment Needs Among Criminal Justice Populations Study (Luckey, Foster, & Rounds-Bryant, 1997), asked questions concerning homelessness, number of children, where the respondent was living when arrested, respondent's living situation while growing up, familial drug abuse, and familial criminal history. It also included questions on current and previous involvement with the criminal justice system (e.g., number of arrests, convictions, and incarcerations).

### **1.3.2 Sampling Procedures**

Data were collected from adults aged 18 or older who were newly arrested in either Cumberland or Penobscot Counties for crimes other than misdemeanor traffic offenses and warrants or commitments. Adults arrested in these counties are typically held at the respective

county jails until they appear before a magistrate for disposition of their cases. The amount of time spent in the jails varies depending upon the day and time of arrest and may range from less than 1 hour to about 24 hours. For this study, we conducted interviews and collected urine specimens from arrestees in the jails while they were awaiting transfer to the magistrate's office; however, our sampling procedures were designed such that all interviews and urine specimens were targeted to be collected within 12 hours of arrest.

From the beginning, the data collection strategy was to interview all eligible arrestees brought in during the sampled time periods which were predicted to be high jail activity periods. The goal was to obtain interviews with 225 males at each of the two county jails and to interview 100 females at the Cumberland County jail, for a total of 550 completed interviews. The plan called for completion of data collection within 4 months.

When data collection began in Cumberland County on November 18, 1996, interviewers worked from 5 p.m. until 2 a.m. Monday through Saturday conducting interviews with all willing, available, and eligible arrestees brought in between 4 p.m. and 1 a.m. of the same day. Because the number of arrestees was less than anticipated, and the number detained in the jail was lower than expected because of quick bail and release procedures, an inadequate number of completed interviews had accumulated during the first few weeks of data collection. In an effort to complete more interviews and to make more efficient use of interviewers, the time periods covered were redefined. Between November 27, 1996, and January 26, 1997, interviewers in Cumberland County worked from 5 p.m. to 5 a.m. on Thursdays through Saturdays, interviewing all willing, available, and eligible arrestees who were brought in between 4 p.m. and 4 a.m. on the same days. When it became apparent that our efforts to be efficient by targeting arrestees during presumably high-arrest-activity times and days would not be as successful as necessary in quickly yielding the desired number of interviews, the strategy was changed again. After January 26 and until August 15, 1997, the interviewers worked every night from 6 p.m. until 11 p.m. interviewing all willing, available, and eligible arrestees who were brought in during the 24 hours beginning at 10 p.m. on the previous day.

Much the same pattern of arrestee selection occurred in Penobscot County; however, interviewing did not begin there until December 10, 1996. From then until January 14, 1997, interviewers worked from 5 p.m. until 2 a.m. on Thursday and Friday nights, 8 a.m. until 11 a.m. on Saturday and Sunday mornings, and from 5 p.m. until 9 p.m. on Saturday evenings. They conducted interviews with all willing arrestees who were available and eligible and who were brought in from 4 p.m. until 4 a.m. on Thursday through Sunday. The schedule changed on January 16, 1997. At that time, all eligible arrestees were interviewed who were brought in between 4 p.m. and 4 a.m. on Thursday through Saturday and who were available and willing

between 9 p.m. and 2 a.m. on Thursday, 9 p.m. and 5 a.m. on Friday, and 8 a.m. and 11 a.m. plus 5 p.m. and 9 p.m. on Saturday. For the same reasons as in Cumberland County, the strategy and schedule changed on January 27, 1997, until the end of data collection in Penobscot County on August 12, 1997. During that time period, interviewers worked every night from 6 p.m. until 11 p.m. interviewing all willing arrestees who were available and eligible, and who were arrested, booked, and detained during the 24 hours beginning at 10 p.m. on the previous day.

### **1.3.3 Data Collection**

Procedures. Each day that an interviewer reported to the jail, the first activity he or she performed was to list the eligible bookings that had occurred during the previous designated sample time period. In Cumberland County, males and females were listed separately, while in Penobscot County, only males were listed. Typically, there was only one interviewer at a time conducting interviews with arrestees, and usually the interviewer sought to conduct interviews first with persons who were still in the booking area and not yet taken to the holding area, lest they be released on bail and not available later for an interview.

Once identified as eligible to participate in the study, the arrestee was brought to an interviewing room that was adjacent to the booking area. Jail escorts brought one arrestee at a time to the interviewing room; the escort waited outside while the interviewer administered survey procedures. The interviewer first explained the study to the arrestee. All potential subjects were assured that their participation was completely voluntary, that their responses would be kept confidential, and that their identity would remain anonymous. To this end, each potential respondent was read an Informed Consent Form that was approved by RTI's Human Subjects Committee and asked to participate in the study (Appendix B). Potential respondents also were informed that, if they agreed to participate, they would be provided with light refreshments while they were completing the survey. If the arrestee agreed to participate, the interviewer began the survey; otherwise, the arrestee was escorted back to the holding area.

As mentioned earlier, the survey instrument was administered using CAPI. Interviewers read survey questions and entered each arrestee's responses into a laptop computer. The program automatically branched each interview into different or additional sets of questions based on responses. For example, if a respondent reported having used marijuana, then detailed questions on his or her use of this substance were asked. However, if a respondent said he or she had not used marijuana, then no additional questions on marijuana were asked. Thus, the time that it took for an arrestee to complete the survey varied, depending on the number of substances used.

After the CAPI survey was completed, the interviewer explained the second part of the study, the urine specimen collection, to the respondent. A second Informed Consent Form,

which provided assurances of voluntary participation, confidentiality, and anonymity, was read to the respondent (Appendix B). If the respondent agreed to provide a urine specimen, then he or she was led to a bathroom facility, given urine collection supplies, and asked to provide the specimen; otherwise, the interviewer thanked the arrestee for participating in the interview portion of the study and the arrestee was led back to the holding area.

Description of Interviewers. The data were collected by four interviewers who rotated hours in Cumberland County, and three interviewers who did the same in Penobscot County. The interviewers were recruited through newspaper advertisements, local treatment providers, and local colleges. Some of the interviewers were quite experienced and knowledgeable about substance abuse. Before beginning the data collection, all interviewers attended a 2-day training session conducted jointly by OSA and RTI that covered all procedures for data collection, including the listing of eligibles, confidentiality responsibilities, and obtaining arrestee informed consent. It should be noted that it was necessary over the course of the project to replace interviewers in both locations, so a special training program for replacement interviewers was provided.

Response rates. The population of eligible arrestees consisted of 2,749 males and 331 females—a total of 3,080 persons. Of that number, the vast majority, 2,145 or 69.6%, were not available for an interview because they were either already released on bail or intoxicated and unable to be interviewed. Of the 937 arrestees who were eligible (i.e., age 18 or older and arrested on charges other than misdemeanor traffic offenses, warrants, or commitments) and available for the survey, 386 males and 46 females refused to participate. Interviews were completed with a total of 505 arrestees, yielding an interview response rate of 53.9% among those who were eligible and available. However, the interviewed arrestees represented only 16.4% of the total number of eligibles arrested. Exhibit 1.1 displays response rates for the total sample by gender.

Of the 505 arrestees who completed an interview, 231 agreed to participate in the urine study, yielding a urine survey response rate of 45.7% (Exhibit 1.1). However, of the 231 respondents who agreed to the urine component, 24 respondents were unable to provide a specimen. Thus, a total of only 207 usable specimens were available for analysis, representing 41.0% of 505 arrestees who were interviewed.

**Exhibit 1.1 Number of Eligible Respondents and Response Rates for the Maine Adult Arrestee Survey: 1997**

Item	Males Count (%)	Females Count (%)	Total Count (%)
<b>Eligible Respondents</b>	2,749	331	3,080
<b>Interview</b>			
Completed	438 (15.9%)	67 (20.2%)	505 (16.4%)
Refused	386 (14.0%)	46 (13.9%)	432 (14.0%)
Unavailable <sup>1</sup>	1,925 (70.0%)	218 (65.9%)	2,143 (69.6%)
<b>Urine</b>			
Usable specimens	182 (41.6%)	25 (37.3%)	207 (41.0%)
Agreed, but could not provide specimen	22 ( 5.0%)	2 ( 3.0%)	24 ( 4.7%)
Refused	234 (53.4%)	40 (59.7%)	274 (54.3%)

<sup>1</sup>Respondent was released before interview could be conducted or was not available for the interview.

Source: Maine Adult Arrestee Survey: 1997.

### 1.3.4 Data Processing

Preparation of the Dataset. Interview data were stored on diskette as well as on the hard drive of the laptop computers that were used to conduct the interviews. On a weekly basis, OSA staff picked up diskettes and other study materials from the interviewers and forwarded them to RTI. Once received at RTI, the diskettes were logged in and backed up; the data were then concatenated into one dataset. The data were then converted from the PARADOX database system to a Statistical Analysis System (SAS) dataset for analysis.

Interviewers mailed the urine specimens to a certified laboratory for enzyme immunoassay on a weekly basis. Prior to shipment to the laboratory, specimens were kept in a secure place at the jail. The laboratory tested the specimens for alcohol and 10 drugs (i.e., amphetamines, barbiturates, benzodiazepines, cannabinoids, cocaine, methadone, methaqualone, opiates, and phencycline propoxyphene [PCP]). After testing, the laboratory faxed results for each specimen to RTI. These results were then entered into a database. Using the study identification number, which was attached to the interview and the urine sample, the results of the immunoassay were merged with the interview data.

Weighting. Basic weights for the 3,080 eligibles were calculated to reflect the sampling operations in the two survey sites. The weights reflect the hours of the day and days of the week during which arrestee interviewing was in effect at each site on the calendar dates mentioned in

Section 1.3.2. The basic weights also were expanded to a 1-year equivalent period from the 271-day survey period in Portland and the 246-day period in Bangor. The basic weights are appropriate for analysis of data that are available for all 3,080 eligibles listed in the Maine arrestee survey.

Adjusted weights suitable for analysis of data available for the 505 eligibles who completed the questionnaire were computed using weighting class methods. The objective was to divide the 3,080 eligibles into weighting classes so that those within each weighting class were as similar as possible, based on the available information about them. The weighting classes were constructed based on the arrestees' location, age, and gender. It should be noted that the race/ethnicity of the arrestee also was considered, but it was not feasible to use it as a weighting class variable because so many of the arrestees had been released or were unavailable at the time of interview and the interviewers could not determine the racial/ethnic backgrounds of the arrestees.

To control the variability in the adjusted weights, a minimum of 12 responding persons of each gender in each location was used in constructing the weighting classes. For males, eight weighting classes were defined for the ages 18-20, 21-22, 23-24, 25-29, 30-34, 35-39, 40-44, and 45 or older. Four weighting classes for females were defined for ages 18-24, 25-34, 35-44, and 45 or older.

The adjusted weights for the 505 questionnaire respondents were computed as follows:

$$WTADJ(i, j) = WT(i, j) * S(i) / R(i)$$

where

$WT(i, j)$  = basic weight for arrestee-j of weighting class-i,

$S(i)$  = sum of the basic weights for all arrestees in weighting class-i, and

$R(i)$  = sum of the basic weights for all questionnaire respondents in weighting class-i.

The adjusted weights for all nonrespondents were set to zero.

A similar weighting class procedure was used to compute a separate set of weights for use in analysis of data for only those 207 subjects from whom urine samples were obtained. To control the variability in the adjusted weights, a minimum of 12 persons of each gender in each location was used in constructing the weighting classes. For males, four weighting classes were



defined for the ages 18-22, 23-29, 30-39, and 40 or older. Two weighting classes for females were defined for ages 18-34 and 35 or older.

The adjusted weights for the 207 arrestees who provided urine specimens were computed as follows:

$$UWTADJ(i, j) = WT(i, j) * S(i) / RU(i)$$

where

$WT(i, j)$  = basic weight for arrestee-j of weighting class-i,

$S(i)$  = sum of the basic weights for all arrestees in weighting class-i, and

$RU(i)$  = sum of the basic weights for all urine providers in weighting class-i.

The adjusted weights for arrestees not providing urine samples were set to zero.

## **1.4 Key Definitions**

Definitions of illicit drug use, heavy alcohol use, and need for treatment and/or intervention are given below. Other measures (e.g., demographic characteristics) are self-evident or explained in the text where they are encountered.

### **1.4.1 Illicit Drug Use**

Any “core” illicit drug use was defined as any use of marijuana or hashish, hallucinogens, cocaine (including crack), or heroin or other opiates at least once in the time period of interest (i.e., lifetime, past year, past month).

### **1.4.2 Heavy Alcohol Use**

Heavy alcohol use in the lifetime was defined as (1) consuming five or more drinks in a day (four or more for females) weekly during a period of their lifetime, or (2) reporting heavy alcohol use in the past year. Heavy alcohol use in the past year was defined as consuming on average five or more drinks in a 24-hour period (four or more drinks for females) and reporting use of alcohol 50 or more times in the past 12 months. The frequency threshold of at least 50 times in the past year was used to approximate weekly use.

### **1.4.3 Substance Dependence and Abuse**

The definitions of psychoactive substance dependence or abuse used in this analysis are given in the DSM-III-R (APA, 1987). Briefly, for someone to be considered dependent on a given substance, that person would need to have had a minimum of three out of nine symptoms of dependence at any point in his or her lifetime. Some of these symptoms need to have persisted for at least 1 month or to have occurred over a longer period of time. The DSM-III-R (1987) category of psychoactive substance abuse is a residual category for people who have never met the criteria for a diagnosis of dependence but who demonstrated one or two symptoms of dependence. More detailed discussion of the symptoms of dependence or abuse and the criteria for meeting DSM-III-R (1987) diagnoses of dependence and abuse are given in Section 4.1.1.

### **1.4.4 Need for Treatment or Intervention**

People were classified as being in need of treatment in the past 12 months if they had received treatment for their use of alcohol or other drugs in the past 12 months, or if:

1. they met lifetime DSM-III-R (1987) diagnostic criteria for dependence or abuse for a given drug; and
2. they used that drug in the past 12 months and at least one of the following was true:
  - one or more symptoms of dependence or abuse occurred in that same time period, or
  - they exhibited a “problem” pattern of substance use, as defined in Chapter 4.0.

However, some substance users who have never met the criteria for substance abuse or dependence may still be in need of some form of less intensive intervention for their substance use. Therefore, people also were identified to be in need of “intervention” in the past year if they never had a diagnosis of dependence or abuse but nevertheless had either:

1. one or more symptoms of dependence or abuse in the past 12 months, or
2. exhibited a “problem” pattern of substance use, as defined in Chapter 4.0.

## **1.5 Procedures for Analysis**

The overriding goal of this survey of the Maine adult arrestee population was to develop reliable and valid estimates of need for alcohol and other drug use treatment, based on measures of dependence on alcohol and other drugs (or other relevant drug-related measures) among the adult arrestee population and certain subpopulations. These estimates, along with data on such issues as the prevalence of untreated substance abuse dependence, barriers to entering drug treatment, and data on the need for intervention will offer important guidance to policymakers at the state and federal levels in their decisionmaking about treatment needs, priorities, and resource allocation.

To accomplish these aims, we conducted descriptive univariate and bivariate analyses of the prevalence of substance use, and demand and need for treatment or intervention. Because of the expected differences in substance use by gender, almost all analyses are presented separately by gender, as well as for the total sample. All statistical analyses were performed using SAS software, except the computation of the standard errors for selected tables, which were generated using RTI's proprietary software, called SURvey DATA ANalysis or SUDAAN. Weighted analysis and the SUDAAN software were used to fully account for the sample design (Shah, Barnwell, & Bieler, 1994).

For several key findings in this report we present 95% confidence intervals around percentages and prevalence estimates. Because the estimates in this report were based on a sample of arrestees, as opposed to a census of every arrestee in Maine, there is some variability in the estimates; if a different sample were drawn and a new set of interviews had been conducted, lower or higher estimates might be observed. A 95% confidence interval for an estimated percentage provides an indication of the range of possible values in which the true percentage of the population of arrestees is likely to be found.

## **1.6 Strengths and Limitations**

The 1997 Maine Adult Arrestee Survey offers a number of contributions in assessing the scope of the problem of substance use, the need for drug or alcohol treatment, and the issue of met and unmet demand for services among adult arrestees in the state of Maine. However, the strengths of the current study should be considered along with a discussion of possible limitations.

First, issues of population coverage and response rates may affect the validity of survey data. If the population is not properly represented in the survey, or if response rates are low, biases may be introduced that can invalidate the survey results. Fortunately, the methods used in

this survey ensured that adequate numbers of males and females were included in addition to arrests for drug charges and other charges. On the other hand, it is important to acknowledge that the estimates provided in this report are based on data collected in only two counties and, therefore, do not represent the total population of arrestees in Maine. Further, it should be recognized that, despite the large number of interviews completed, they represented only one of six arrestees who were eligible for the study. The others were not interviewed because they were released on bail before they could be approached, were too intoxicated to be interviewed, or refused to be interviewed. The study, in effect, is a study of detainees in the two jail sites. However, we believe that the estimates in this report provide a very useful and sound starting point for information about the problems of substance use and the need for treatment among arrestees in Maine.

Second, the majority of data presented in this report relies on the self-report of information from respondents in the survey. The self-report of behaviors relies on respondents' truthfulness to provide correct information about observations and events. Therefore, survey results are subject to the potential bias of self-report and to the ambiguities caused by questions with varying interpretations. However, surveys have been and continue to be a well-respected method for obtaining data about a wide variety of behaviors, including substance use. A series of studies has demonstrated that although self-reports may sometimes underestimate the extent of substance use, the method generally provides useful and meaningful data (Harrison 1995; Rouse, Kozel & Richards, 1985). A general conclusion emerging from this work is that most people appear to be truthful (within the bounds of capability) under the proper conditions. Such conditions include believing that research has a legitimate purpose, having suitable privacy for providing answers, having assurances that answers will be kept confidential, and believing that those collecting the data can be trusted (Harrison, 1995; Johnston & O'Malley, 1985).

In the current study, procedures were followed to encourage honest reporting. Arrestees were selected randomly on the basis of sampling procedures. The purposes of the study were explained to all selected participants, and those who agreed to participate were interviewed in a private room and given assurances about the confidentiality of the data they provided. Furthermore, urine specimens were collected as part of this study to provide an additional source of information about substance use. For a number of analyses in this report, urinalysis results were incorporated to mitigate the effects of underreporting of substance use. Consequently, the estimates reported here are believed to be reasonably reliable, although they are likely to be conservative due to some underreporting. Thus, these estimates are more likely to represent the lower bound of substance use rates and projections of the need for treatment. Taken together, these data provide a baseline for planning and addressing the needs for treatment of adult arrestees in Maine.

## **2.0 DESCRIPTION OF SAMPLE**

Before presenting information about the substance use and alcohol and drug treatment needs for arrestees in Maine, it is important to present an overview of the study sample from which this information is derived. In this chapter, a summary of sociodemographic characteristics and arrest information is given for respondents in the 1997 Maine Adult Arrestee Survey. There were a total of 438 men (86.7%) and 67 women (13.3%) interviewed. Information about basic sociodemographic characteristics of survey respondents is shown in Exhibit 2.1. All reported percentages are weighted estimates that account for the sampling scheme used to select respondents (see Section 1.3.4 for a description of the weighting procedures); however, counts are given as the actual number of respondents in each category.

Approximately 90% of the study sample was under the age of 45 years, with 24.4% of women and 29.7% of men under the age of 25. In terms of race/ethnicity, more than 90% of the sample (90.3% of men and 91.4% of women) were white. The majority of respondents had never been married (59.7% for males and 36.8% for females); approximately one-fifth reported either being married or living with someone (19.4% of males and 29.9% of females). In terms of educational level, nearly 30% of the sample had less than a high school education (29.1% of males and 23.8% of females). Slightly more women than men reported having at least some college education (29.2% vs. 21.5%). Nearly 25% of the sample reported a total annual family income of under \$5,000, and about the same proportion (29.5% of males and 18.6% of females) reported a total family income of more than \$15,000. In summary, the majority of respondents (both male and female) in the 1997 Maine Adult Arrestee Survey were relatively young, white, single, low income, and had a high school education or less.

The gender and age group characteristics of the interviewed arrestees appear representative of the adult arrestee population in Cumberland and Penobscot Counties at the time the sample was identified and interviews were conducted. The distribution of interviewed arrestees does not differ substantially from the distribution by gender of the entire 3,080 arrestees booked into the two jails during the study period. There were 2,749 males (89.3%) and 331 females (10.7%). The age distribution of the entire 3,080 arrestees also is not substantially different from that of the respondents. There were 29.1% of males 18 to 24 years of age and 22.7% of females. In the 25- to 44-year-old age group, there were 60.7% of the males and 66.8% of the females. In the oldest age group, 10.2% were males and 10.6% per females.

Exhibit 2.2 summarizes rates of current arrest charges by gender in the 1997 Maine Adult Arrestee Survey. Arrest charges are organized into four categories: (1) “Crimes Against

**Exhibit 2.1 Demographic Characteristics of the Maine Adult Arrestee Survey Respondents: 1997**

Demographic Characteristic	Male		Female		Total	
	Unweighted n	Weighted %	Unweighted n	Weighted %	Unweighted n	Weighted %
<b>Total Maine</b>	438	87.8	67	12.2	505	100
<b>Age (years)</b>						
18 - 24	157	29.7	16	24.4	173	29.1
25 - 44	245	60.5	39	65.2	284	61.1
45 or older	36	9.8	12	10.5	48	9.9
<b>Race/Ethnicity<sup>1</sup></b>						
White <sup>2</sup>	390	90.3	63	91.4	453	90.4
Nonwhite <sup>3</sup>	45	9.7	4	8.6	49	9.6
<b>Marital Status</b>						
Single, never married	280	59.7	25	36.8	305	56.9
Married/living with someone	81	19.4	22	29.9	103	20.7
Separated/divorced/widowed	77	20.9	20	33.3	97	22.4
<b>Education</b>						
Less than high school	146	29.1	17	23.8	163	28.5
High school	206	49.4	27	47.0	233	49.1
More than high school <sup>4</sup>	86	21.5	23	29.2	109	22.4
<b>Total Family Income</b>						
Under \$5,000	125	24.5	15	24.4	140	24.5
\$5,001 - \$15,000	176	46.0	36	57.0	212	47.3
\$15,001 or more	114	29.5	12	18.6	126	28.2

<sup>1</sup>There are three cases where race information was missing.<sup>2</sup>White non-Hispanic.<sup>3</sup>Includes black non-Hispanic, Hispanic, Asian or Pacific Islander, American Indian, Alaskan native, or other.<sup>4</sup>Includes some college, college graduate, and higher.

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 2.2 Percentage Reporting Current Arrest Charges in the Maine Adult Arrestee Survey, by Gender: 1997**

Arrest Charge	Male	Female	Total
<b>Crimes Against Persons</b>	17.7	23.4	18.4
Assault	12.2	22.8	13.5
Extortion/threat	1.2	*	1.0
Kidnapping	1.3	*	1.2
Robbery	1.9	*	1.7
Sexual assault/rape	0.1	0.6	0.2
Sexual offense	1.0	*	0.9
<b>Crimes Against Property</b>	15.4	13.2	15.1
Arson	0.4	*	0.3
Burglary	5.8	3.3	5.5
Burglary tools	0.1	*	0.1
Forgery	1.7	0.7	1.5
Fraud	1.5	*	1.3
Larceny/theft	5.2	8.2	5.5
Stolen property	0.9	0.9	0.9
<b>Substance-Related Crimes</b>	7.3	6.2	7.2
Drug possession	2.2	3.6	2.4
Drug sales	3.5	2.6	3.4
Liquor	0.4	*	0.4
Under the influence	1.2	*	1.0
<b>Miscellaneous Crimes</b>	59.6	57.3	59.3
Family offense	1.7	*	1.5
Warrant/flight/escape	4.4	*	3.9
Probation/parole/ROR violation	8.9	8.3	8.8
Obscenity/indecent exposure	0.6	*	0.5
Prostitution	*	0.9	0.1
Resisting arrest/obstruction	*	0.7	0.1
Weapons	0.5	*	0.4
Public peace	5.8	9.1	6.2
DWI/DUI <sup>1</sup>	22.2	25.1	22.5
Traffic (excluding DWI)	2.0	*	1.8
Other	13.6	13.2	13.6

Note: Data entries are weighted percentages.

\*Estimate equals zero.

ROR = released on own recognizance; DWI = driving while impaired; DUI = driving under the influence.

<sup>1</sup>In Maine, this charge is OUI (operating under the influence).

Source: Maine Adult Arrestee Survey: 1997.

Persons,” (2) “Crimes Against Property,” (3) “Substance-Related Crimes,” and (4) “Miscellaneous Crimes,” which include parole and probation violations, weapons charges, family offenses, driving while impaired/driving under the influence (DWI/DUI),<sup>1</sup> prostitution, and disturbing the peace. The percentages given in Exhibit 2.2 are based on respondents’ self-reports of their most serious current arrest charge. The three most commonly reported arrest charges were DWI/DUI (22.2% for males; 25.1% for females), assault (12.2% for males; 22.8% for females), and probation/parole violation (8.9% for males; 8.3% for females). These three charges account for 43.4% of reported arrest charges for males and 56.2% for females. Other arrest charges reported by 5% or more of males or females include burglary (5.8% for males, 3.3% for females), larceny/theft (5.2% for males; 8.2% for females), and disturbing the public peace (5.8% for males; 9.1% for females).

For both males and females, the highest overall arrest rates were for the category “Miscellaneous Crimes” (59.6% for males; 57.3% for females), followed by “Crimes Against Persons” (17.7% for males; 23.4% for females), then “Crimes Against Property” (15.4% for males; 13.2% for females). “Substance-Related Crimes” were the least often reported category (7.3% for males; 6.2% for females).

Caution should be used for any interpretation of these rates of arrest charges beyond using them as a description of the sample. The percentages given here are based on respondent’s own assessment of their most serious crime rather than a standardized ranking of all possible arrest charges. Moreover, the percentages do not represent the full range of arrest charges for individuals with multiple charges pending. However, as can be seen from Exhibit 2.3, the distribution of charges by category of crime for the entire state of Maine is not so different overall or by gender from that reported by respondents in the arrestee survey. The statewide data were obtained from the Maine Department of Public Safety and include all charges filed against persons arrested in Maine during 1996.

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<sup>1</sup>The DWI/DUI designation is used in the FBI’s Uniform Crime Reporting (UCR). In Maine, the actual charge is operating under the influence (OUI). However, to be consistent with the UCR designations, we have maintained the DWI/DUI label in the table and our immediate discussion about it.



**Exhibit 2.3 Comparison of Arrest Category Percentage Distributions, by Gender, from the 1996 Uniform Crime Reports for Adults in the State of Maine and the 1997 Maine Adult Arrestee Survey**

<b>Arrestee Charge Category</b>	<b>Male</b>		<b>Female</b>		<b>Total</b>	
	<b>State UCR</b>	<b>Arrestee Survey</b>	<b>State UCR</b>	<b>Arrestee Survey</b>	<b>State UCR</b>	<b>Arrestee Survey</b>
Crimes Against Persons	15.1	17.7	14.7	23.4	15.0	18.4
Crimes Against Property	15.4	15.4	23.5	13.2	16.5	15.1
Substance-Related Crimes	13.7	7.3	6.5	6.2	12.7	7.2
Miscellaneous Crimes	55.9	59.6	55.2	57.3	55.8	59.3

Note: Data entries are weighted percentages.

Sources: Maine Adult Arrestee Survey: 1997; and 1996 Uniform Crime Report, Maine Department of Public Safety.

### 3.0 PREVALENCE OF SUBSTANCE USE

Evaluating the prevalence of alcohol and drug use in a population is an important initial step in examining the need for treatment for alcohol and drug problems. This chapter presents information regarding the prevalence of substance use among respondents in the 1997 Maine Adult Arrestee Survey. The majority of this chapter focuses on heavy alcohol use and core illicit drug use. As described in Section 1.4.2, heavy alcohol use in the lifetime was defined as consuming five or more drinks in a day (four or more for females) weekly during a period in the lifetime or a report of heavy alcohol use in the past year. Heavy alcohol use in the past year was defined as consuming on average five or more drinks in a 24-hour period (four or more for females) and reporting use of alcohol 50 or more times in the past 12 months. The frequency threshold of at least 50 times in the past 12 months was employed to approximate weekly use of alcohol, and the consumption of five or more drinks in a day (four or more for females) commonly is used as a threshold to distinguish heavy from nonheavy use.

Illicit drugs were grouped into two categories: “core illicit drugs” and “other illicit drugs.” As defined in Section 1.4.1, the category of “core illicit drugs” refers to use of four drug types: marijuana (including hashish), hallucinogens, cocaine (including crack), and heroin (including other opiates). Rates of use for “other illicit drugs” also were examined for amphetamines, methamphetamines, barbiturates, Quaaludes, Valium, Darvon, and methadone. It should be noted that although most use reported for core illicit drugs and other illicit drugs refers to illicit use, the distinction between illicit use and licit use (e.g., use with a doctor’s prescription for medical purposes) was not made in this survey. Therefore, it is possible that some use of certain drugs (e.g., Valium) will include licit use in addition to illicit use.

The six sections in this chapter provide an overview of the prevalence of substance use among the Maine adult arrestees in this study. Section 3.1 presents reported rates of use for tobacco, alcohol, and drugs for the following time periods: lifetime, past year, and past month. Section 3.2 provides a more detailed examination of heavy alcohol use, core illicit drug use, and injection drug use by selected demographic characteristics. Section 3.3 examines the use of multiple substances among Maine adult arrestees. For the purposes of this study, two definitions of multiple substance use were employed: (1) heavy alcohol use plus the use of at least one core illicit drug and (2) use of two or more core illicit drugs. Section 3.4 compares rates of heavy alcohol use and illicit drug use among Maine adult arrestees and Maine adult household residents. Section 3.5 presents urinalysis results and revised percentages (i.e., adjusted for underreporting) for the use of alcohol and illicit drugs among adult arrestees. The final section summarizes the chapter’s main findings. All percentages reported in this chapter are based on

weighted estimates that take into account the sampling design (see Section 1.3.4 for a discussion of sampling weights).

### **3.1 Prevalence Estimates for Tobacco, Alcohol, and Drug Use**

When attempting to detect substance use problems in a population, it can be very useful to evaluate data for subgroups. However, before this is done, the baseline rate of substance use should be established for the population as a whole. In this way, the scope of the problem is better understood, and more meaningful comparisons can be made both across subgroups and for the population as a whole.

Exhibit 3.1 presents prevalence estimates among Maine adult arrestees for tobacco, alcohol (both any use and heavy use), and drug use for the following time periods: lifetime, past year, and past month. Data are not available for use in the past year of tobacco and drugs in the other illicit drug category because use of these substances during the past year was not assessed in the survey instrument. In addition, the quantity of alcohol consumed was not asked for in the past month time frame; therefore, heavy alcohol use in the past month could not be determined.

Almost all males and females reported tobacco use (91.4% for males, 88.7% for females) in their lifetime, and more than 70% (74.0% for males; 77.5% for females) reported tobacco use in the past month.

An even greater percentage of respondents in the 1997 Maine Adult Arrestee Survey reported alcohol use than reported tobacco use. Almost 100% reported lifetime alcohol use (99.9% for males, 96.7% for females). Similarly high proportions of respondents reported alcohol use in the past year: 93.2% of males and 86.0% of females. In addition, approximately four out of five males (81.4%) and females (79.3%) reported use of alcohol in the past month. Not all arrestees who reported alcohol use qualified as heavy users, although the rates of heavy use were quite high. An estimated 59.8% of males and 45.0% of females reported heavy consumption of alcohol in their lifetime. Past year rates of heavy alcohol use were lower than lifetime rates, particularly for women: 41.3% for males and 19.1% for females.

Rates of illicit drug use were highest for the core illicit drugs. Males and females reported similarly high lifetime use rates: 90.2% (males) and 89.5% (females). A smaller percentage reported use in the past year (71.9% of males; 57.3% of females), and use in the past month was even lower (46.1% of males; 23.9% of females). Rates of past year and past month core illicit drug use were lower among female than male arrestees, but still substantial.

**Exhibit 3.1 Percentage Reporting Tobacco, Alcohol, and Illicit Drug Use in the Lifetime, Past Year, and Past Month in the Maine Adult Arrestee Survey, by Gender: 1997**

Substance Used	Males			Females			Total		
	Lifetime	Past Year	Past Month	Lifetime	Past Year	Past Month	Lifetime	Past Year	Past Month
<b>Tobacco</b>	91.4	—	74.0	88.7	—	77.5	91.1	—	74.4
<b>Alcohol Use</b>	99.9	93.2	81.4	96.7	86.0	79.3	99.5	92.3	81.1
Heavy alcohol <sup>1</sup>	59.8	41.3	—	45.0	19.1	—	58.0	38.6	—
<b>Any Core Illicit Drug<sup>2</sup></b>	90.2	71.9	46.1	89.5	57.3	23.9	90.1	70.1	43.4
Marijuana/hashish	90.2	69.6	44.2	86.2	52.6	23.5	89.7	67.5	41.7
Hallucinogens	51.9	21.3	7.9	35.8	0.6 <sup>‡</sup>	*	49.9	18.8	6.9
Cocaine	48.6	24.6	9.2	46.5	10.9	2.4	48.3	22.9	8.4
Heroin/opiates	27.2	13.0	5.0	20.9	5.5	0.4 <sup>‡</sup>	26.4	12.1	4.4
<b>Other Illicit Drug<sup>3</sup></b>	47.8	—	12.4	36.8	—	11.9	46.5	—	12.4
Amphetamines	39.5	—	1.6	32.4	—	1.1	38.6	—	1.6
Barbiturates	22.6	—	7.4	15.4	—	*	21.7	—	6.5
Quaaludes	14.2	—	1.0	11.7	—	*	13.9	—	0.9
Valium	32.3	—	6.3	24.5	—	4.5	31.4	—	6.1
Darvon	12.2	—	1.0	11.5	—	2.6	12.1	—	1.2
Methadone	5.8	—	0.6	8.2	—	3.7	6.1	—	1.0
Inhalants	13.2	—	0.8	12.6	—	*	13.1	—	0.7
Methamphetamine	19.6	—	0.6	14.7	—	*	19.0	—	0.5
<b>Any Core Illicit Drug or Other Illicit Drug</b>	91.2	—	47.1	90.3	—	31.5	91.1	—	45.2

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 3.1SE in Appendix C.

— Not available.

\*Estimate equal to zero.

<sup>‡</sup>Met or exceeded the criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>For lifetime, defined as five or more drinks in a day (four or more for women) weekly during a period in the lifetime or indicating heavy alcohol consumption in the past year. For

the past year, defined as consuming on average five or more drinks in a 24-hour period (four or more for women) and use of alcohol 50 or more times in the past year.

<sup>2</sup>Use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates) at least once.

<sup>3</sup>Use of amphetamines, barbiturates, Quaaludes, Valium, Darvon, methadone, inhalants, or methamphetamine at least once.

Source: Maine Adult Arrestee Survey: 1997.

The core illicit drug most frequently reported was marijuana (including hashish). Most male arrestees reported lifetime marijuana use (90.2%), more than two-thirds (69.6%) reported use in the past year, and nearly two-fifths reported use in the past month (44.2%). Among female arrestees in the study, marijuana was also the most commonly reported drug for lifetime (86.2%), past year (52.6%), and past month use (23.5%). For males, the second most commonly reported drug for lifetime use was hallucinogens (51.9%), although cocaine was more commonly reported in the past year (24.6%) and past month (9.2%). Similarly, after marijuana use, females were most likely to report lifetime cocaine use (46.5%); however, they were more likely to report past month use of Valium (4.5%) and opioids, such as methadone<sup>1</sup> (3.7%) and Darvon (2.7%).

The prevalence of use of other illicit drugs, such as amphetamines, Quaaludes, inhalants, and methamphetamines, was notably lower than for core illicit drug use. Almost one-half (47.8%) of males and one-third of females (36.9%) reported lifetime use of other illicit drugs, contrasted with approximately 90% of males and females who reported lifetime use of core illicit drugs.

### **3.2 Alcohol Use, Drug Use, and Injection Drug Use, by Selected Demographics**

Once baseline estimates of substance use have been established, a more detailed analysis of the data by various subgroup characteristics can provide a better mechanism for detecting potential substance use problems among Maine adult arrestees. In this section, heavy alcohol use, use of core illicit drugs, and injection drug use are examined by selected demographic characteristics, including age, race/ethnicity, marital status, education, and total family income. As in previous analyses, all rates are presented separately for males and females.

#### **3.2.1 Past Year Heavy Alcohol Use, by Selected Demographic Characteristics**

Exhibit 3.2 shows rates of heavy alcohol use and any core illicit drug use in the past year by the selected demographic characteristics for males and females. Males 25 to 44 years of age were only slightly less likely to report heavy drinking (40.8%), whereas for females, heavy drinking was most common among the 25 to 44 year olds (26.5%).

In terms of race/ethnicity, the reported rates for heavy alcohol use in the past year were highest for white males. Approximately two-fifths of white males (42.6%) were heavy drinkers compared with 29.5% of nonwhite males. The sample did not contain enough nonwhite females to make an adequate comparison between the two female racial/ethnic groups. In general,

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<sup>1</sup>Methadone is often prescribed for the treatment of opiate addiction. Thus, it is not clear that reported use of methadone in this study is illicit.

**Exhibit 3.2 Percentage Reporting Heavy Alcohol Use and Any Core Illicit Drug Use in the Past Year in the Maine Adult Arrestee Survey, by Gender and Selected Demographic Characteristics: 1997**

Demographic Characteristic	Heavy Alcohol <sup>1</sup>			Any Core Illicit Drug <sup>2</sup>		
	Male	Female	Total	Male	Female	Total
<b>Total Maine</b>	41.3	19.1	38.6	71.9	57.3	70.1
<b>Age (years)</b>						
18-24	41.2	*‡	37.0	93.1	71.8‡	90.9
25-44	40.8	26.5	38.9	66.6	54.9	65.1
45 or older	45.2‡	17.5‡	41.6	39.9‡	38.8‡	39.8
<b>Race/Ethnicity</b>						
White <sup>3</sup>	42.6	20.9	40.0	73.4	56.2	71.3
Nonwhite <sup>4</sup>	29.5	*‡	26.3	56.8	69.6‡	58.2
<b>Marital Status</b>						
Single, never married	41.4	7.1‡	38.7	80.4	64.8‡	79.2
Married/living with someone	34.9	6.1‡	29.9	53.6	50.7‡	53.1
Separated/divorced/widowed	47.0	44.0‡	46.5	64.6	55.0‡	62.8
<b>Education</b>						
Less than high school	44.8	22.0‡	42.5	81.3	62.5‡	79.4
High school	42.5	2.4‡	37.8	75.8	65.6‡	74.6
More than high school <sup>5</sup>	34.0	43.7‡	35.5	49.9	39.9‡	48.3
<b>Total Family Income</b>						
Under \$5,000	43.4	39.3‡	42.9	85.5	90.3‡	86.1
\$5,001 - \$15,000	43.3	13.5‡	38.9	74.8	55.8‡	72.0
\$15,001 or more	38.9	17.0‡	37.2	55.9	6.5‡	52.0

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 3.2SE in Appendix C.

\*Estimates equal to zero.

‡Met or exceeded the criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Defined as consuming on average five or more drinks in a 24-hour period (four or more for women) and reporting use of alcohol 50 or more times in the past year.

<sup>2</sup>Use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates).

<sup>3</sup>White non-Hispanic.

<sup>4</sup>Includes black non-Hispanic, Hispanic, Asian or Pacific Islander, American Indian, Alaskan native, or other.

<sup>5</sup>Includes some college, college graduate, and higher.

Source: Maine Adult Arrestee Survey: 1997.

estimates for females should be interpreted cautiously due to the small number of females in the sample.

Rates of heavy alcohol use were highest among the separated/divorced/widowed subgroup of males (47.0%). Married men were the least likely to report heavy drinking (34.9%). Males exhibited different patterns with regard to heavy alcohol use according to their education and income. Rates of heavy alcohol use were highest among men without a high school degree (44.8%) and lowest among men with more than a high school education (34.0%). With regard to income, men with a total family income of less than \$5,000 per year (43.4%) had the highest rates of heavy drinking, while men with a total family income of more than \$15,000 had the lowest levels of heavy drinking (38.9%).

### **3.2.2 Past Year Illicit Drug Use, by Selected Demographic Characteristics**

The second set of columns in Exhibit 3.2 shows the percentages of males and females who reported any use of core illicit drugs in the past year by the selected demographic characteristics. Young males aged 18 to 24 were the most likely to report illicit drug use. The majority of young males (93.1%) admitted to past year illicit drug use. This proportion decreased to 66.6% for males aged 25 to 44 and was even lower for males 45 or older (39.9%). The pattern was similar for females, although the proportion of female drug users tended to be lower than the proportion of male drug users.

There also appeared to be patterns with respect to level of education and total family income for males. Similar to the findings for heavy drinking, males with less than a high school education were the most likely to report illicit drug use (81.3%), and those with more than a high school education reported the lowest core illicit drug use (49.9%). The same pattern held for total family income, with 85.5% of those with family incomes under \$5,000 using a core illicit drug as compared to only 55.9% of those with family incomes above \$15,000.

With regard to marital status, single males were the most likely to use illicit drugs (80.4%).

It is worth noting that white males were more likely than nonwhite males to be both heavy drinkers (42.6% vs. 29.5%, respectively) and illicit drug users (73.4% vs. 56.8%) in the past year.

### **3.2.3 Injection Drug Use, by Selected Demographic Characteristics**

Injection drug use remains one of the primary high-risk behaviors for the spread of the human immunodeficiency virus (HIV) in the United States (Centers for Disease Control [CDC], 1991). In addition, a history of injection drug use indicates potentially serious use. For these reasons, injection drug use history was assessed in the 1997 Maine Adult Arrestee Survey. The percentages of male and female arrestees who reported injection drug use in their lifetime or in the past 6 months are presented in Exhibit 3.3 by selected demographic characteristics.

Overall, approximately one out of six arrestees (17.1%) in the 1997 Maine Adult Arrestee Survey reported ever having injected drugs. The proportion of females (19.1%) injecting drugs was just slightly higher than for males (16.8%). Approximately one-quarter of those reporting lifetime drug injecting, or 4.1%, reported injecting drugs in the past 6 months. Both the lifetime and 6-month rates are substantially higher than reported lifetime rates of drug injection in the 1995 National Household Survey on Drug Abuse (NHSDA) for adults living in the Northeast: 0.9% for adults aged 18 to 25, 1.4% for adults aged 26 to 34, and 1.8% for adults aged 35 or older (Substance Abuse and Mental Health Services Administration [SAMHSA], 1997).

Rates of past 6-month injection drug use were slightly higher for males than females (4.2% vs. 3.0%). For males, the rate decreased with age from 5.5% among 18 to 24 year olds, to 4.1% among 24 to 44 year olds. The rate of drug injection in the past 6 months was highest among married males (6.8%). For males, past 6-month injection drug use was highest among those with a high school degree (6.3%). Rates of injection drug use also were highest among the lowest income group among males. It is difficult to conclude very much about the characteristics of females who reported injecting drugs because there were so few in the study.

### **3.3 Prevalence of Multiple Substance Use**

Thus far, the prevalence estimates have been presented separately for illicit drug use and heavy alcohol use. However, evaluating the prevalence of drug use and alcohol use separately can sometimes be misleading because individuals who use illicit drugs also may drink heavily or use multiple drugs either independently within the same time period or actually in combination with one another. The empirical literature on substance use indicates that those who use one drug regularly are very likely to also use another drug or alcohol (e.g., Craddock, Rounds-Bryant, Flynn, & Hubbard, 1997).



**Exhibit 3.3 Percentage Reporting Injection Drug Use in the Maine Adult Arrestee Survey, by Gender and Selected Demographic Characteristics: 1997**

Demographic Characteristic	Lifetime			Past 6 Months		
	Male	Female	Total	Male	Female	Total
<b>Total Maine</b>	16.8	19.1	17.1	4.2	3.0	4.1
<b>Age (years)</b>						
18-24	10.4	2.9 <sup>‡</sup>	9.6	5.5	* <sup>‡</sup>	5.0
25-44	20.6	24.9	21.1	4.1	4.0 <sup>‡</sup>	4.1
45 or older	12.8	21.3 <sup>‡</sup>	13.9	1.2 <sup>‡</sup>	3.7 <sup>‡</sup>	1.5 <sup>‡</sup>
<b>Race/Ethnicity</b>						
White <sup>1</sup>	18.1	20.9	18.4	4.5	3.3	4.4
Nonwhite <sup>2</sup>	4.4	* <sup>‡</sup>	3.9	1.6 <sup>‡</sup>	* <sup>‡</sup>	1.5 <sup>‡</sup>
<b>Marital Status</b>						
Single, never married	15.8	13.8 <sup>‡</sup>	15.6	4.4	* <sup>‡</sup>	4.1
Married/living with someone	12.0	26.9 <sup>‡</sup>	14.6	6.8	10.1 <sup>‡</sup>	7.4
Separated/divorced/widowed	24.1	18.0 <sup>‡</sup>	23.0	1.3	* <sup>‡</sup>	1.0
<b>Education</b>						
Less than high school	18.3	32.1 <sup>‡</sup>	19.7	2.6	* <sup>‡</sup>	2.4
High school	18.3	15.9 <sup>‡</sup>	18.0	6.3	6.4 <sup>‡</sup>	6.3
More than high school	11.2	13.8 <sup>‡</sup>	11.6	1.8	* <sup>‡</sup>	1.5
<b>Total Family Income</b>						
Under \$5,000	21.1	41.9 <sup>‡</sup>	23.6	8.2	13.2 <sup>‡</sup>	8.8
\$5,001 - \$15,000	22.4	13.5 <sup>‡</sup>	21.1	4.7	* <sup>‡</sup>	4.0
\$15,001 or more	6.9	13.8 <sup>‡</sup>	7.5	0.8	* <sup>‡</sup>	0.8

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 3.3SE in Appendix C.

\*Estimate equals zero.

<sup>‡</sup>Met or exceeded the criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>White non-Hispanic.

<sup>2</sup>Includes black non-Hispanic, Hispanic, Asian or Pacific Islander, American Indian, Alaskan native, or other.

Source: Maine Adult Arrestee Survey: 1997.

Exhibit 3.4 presents the percentages of arrestees in the 1997 Maine Adult Arrestee Survey who reported multiple drug use in the past year. Multiple drug use was defined as either (1) both heavy alcohol use and use of at least one core illicit drug in the past year or (2) use of two or more core illicit drugs in the past year. Approximately one-third of male arrestees (32.9%) reported both heavy alcohol use and use of at least one core illicit drug in the year prior to the 1997 survey. The corresponding percentage for female arrestees was 12.1%. There was some indication that the rates of heavy alcohol use plus core illicit drug use might vary with age. For males, the proportion reporting both heavy alcohol use and use of core illicit drugs was somewhat higher among younger adults. Specifically, arrestees aged 18 to 24 years had the highest rates (39.6%), followed by adults aged 25 to 44 years (30.6%), while adults aged 45 or older (26.9%) reported the lowest rates. Among female arrestees, only those between the ages of 25 and 44 reported heavy alcohol and illicit drug use within the past year.

When multiple drug use was defined as the use of two or more core illicit drugs in the past year, the rates were similar for males and slightly lower for females than they had been for heavy alcohol use plus core illicit drug use. Males were approximately three times more likely than females to report use of more than one core drug. Almost one-third of the males (32.1%)

**Exhibit 3.4 Percentage Reporting Multiple Substance Use in the Past Year in the Maine Adult Arrestee Survey, by Gender and Age: 1997**

Demographic Characteristic	Heavy Alcohol and at Least One Core Illicit Drug <sup>1</sup>			Two or More Core Illicit Drugs <sup>2</sup>		
	Male	Female	Total	Male	Female	Total
<b>Total Maine</b>	32.9	12.1	30.4	32.1	10.9	29.5
<b>Age (years)</b>						
18-24	39.6	*†	35.6	58.7	2.9†	53.0
25-44	30.6	18.6	29.1	22.8	12.8	21.5
45 or older	26.9	*†	23.4	9.0	17.5†	10.1

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 3.4SE in Appendix C.

\*Estimate equals zero.

†Met or exceeded the criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Defined as consuming on average five or more drinks in a 24-hour period (four or more for females) and reporting use of alcohol 50 or more times in the past year, and any use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates).

<sup>2</sup>Use of two or more of the following drugs: marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates).

Source: Maine Adult Arrestee Survey: 1997.

and one out of nine females (10.9%) reported use of two or more core illicit drugs in the year prior to the 1997 survey. Similar to the findings for heavy drinking and illicit drug use, younger males were more likely to report use of more than one illicit substance. Males aged 18 to 24 were the most likely to report multiple substance use (58.7%), followed by 25 to 44 year olds (22.8%), and finally males over the age of 45 (9.0%). Approximately one-eighth of females aged 25 to 44 reported using multiple core illicit drugs (12.8%).

The results presented in Exhibit 3.4 support findings from other studies that multiple drug use is common among those who use drugs. The rate of heavy alcohol use in the past year (presented in Exhibit 3.1) was 41.3% for males and 19.1% for females in the 1997 Maine Adult Arrestee Survey. A somewhat lower proportion of arrestees, 32.9% of males and 12.1% of females, reported both heavy alcohol use and use of at least one core illicit drug in Exhibit 3.4. In other words, 80% of male arrestees and 63% of female arrestees who reported heavy alcohol use in the past year also used illicit drugs. For use of two or more core illicit drugs, the proportions were lower. From Exhibit 3.2, it can be seen that 71.9% of males and 57.3% of female arrestees reported using any core illicit drug in the past year. Exhibit 3.4 shows that 32.1% of male and 10.9% of female arrestees used two or more core illicit drugs. This means that approximately 45% of males reporting any use of core illicit drugs used two or more of them in the past year, and 19% of females reporting use of illicit drugs used two or more in the past year as well.

### **3.4 Comparison of Substance Use Among Household and Arrestee Populations**

In general, arrestees and offenders have a much higher prevalence, greater intensity, and longer histories of alcohol and other drug use than do individuals in the general population.<sup>2</sup> Jail and prison inmates report high lifetime and recent rates of drug use. Findings from a national study show that about 78% of jail inmates in 1989 and 79% of state prison inmates in 1991 had ever used an illicit drug; and 44% to 50% of jail and prison inmates reported using an illicit drug in the month before the offense for which they were incarcerated (Bureau of Justice Statistics [BJS], 1991, 1993). In comparison, according to the 1991 NHSDA, only about 36% of the U.S. civilian, noninstitutionalized population (aged 26 or older) reported ever using an illicit drug, and 4.6% reported use of one in the past month (Office of Applied Studies [OAS], 1993). In this section, we compare rates of substance use among adult arrestees in the 1997 Maine Adult Arrestee Survey to substance use rates for adults in the Maine Household Telephone Survey (Kroutil et al., 1998).

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<sup>2</sup>"Arrestee" refers to the status of an individual from the time of arrest to final court disposition. "Offender" refers to an individual who has been convicted of a crime.

Exhibit 3.5 presents the past year prevalence rates by age for respondents in the Maine Adult Arrestee Survey and the Maine Household Telephone Survey for each of the following substances: alcohol, marijuana, hallucinogens, and cocaine. It is very clear that the arrestees report higher use of all of the substances than the household population. The most striking differences in the prevalence rates between arrestees and the adult household population are for illicit drugs as opposed to alcohol. A comparison between the two groups shows a trend for the differences in the rates between the two populations to become larger with increased age. For example, rates of cocaine use in the past year were approximately 10 times higher for arrestees compared to household residents among 18 to 25 year olds (31.2% vs. 2.9%) but were 14 times higher among 26 to 34 year olds (23.0% for arrestees vs. 1.6% for household residents) and 50 times higher in the 35 or older age group (15.1% for adult arrestees vs. 0.3% for adult household residents).

The differences between arrestees were slightly less dramatic but still substantial for rates of marijuana use in the past year. Compared to the rates of marijuana use for Maine household residents, the percentage of Maine arrestees who reported marijuana use in the past year was almost 3 times higher among 18 to 25 year olds (87.0% vs. 30.6%), approximately 5 times higher among 26 to 34 year olds (68.0% vs. 13.8%), and almost 10 times greater for those 35 years of age or older (48.9% vs. 5.0%). As with the other illicit drugs, arrestees reported hallucinogen use rates 7 times higher than the household population of 18 to 25 year olds, 17 times higher than 26 to 34 year olds, and 29 times higher than those 35 years of age or older.

Rates of use for alcohol were much closer, although use of alcohol was reported from about 15% to 40% more frequently among arrestees compared to the household population in the three age groups. It was not possible to compare the rates of heavy alcohol use between the two groups because some of the alcohol-related questions were asked differently in the Maine Household Telephone Survey and the Maine Adult Arrestee Survey. The resulting definitions of heavy alcohol use, therefore, are slightly different in the two studies.

### **3.5 Results of Urine Testing**

Reviews of studies that have relied on self-report measures of substance use indicate that self-reports can provide useful and valid data if administered under proper conditions (Bale, Van Stone, Engelsing, & Zarcone, 1981; Hubbard, Marsden, & Allison, 1984; Johnston, O'Malley, & Bachman, 1992; Simpson, Lloyd, & Gent, 1976). Studies also suggest, however, that there can be considerable variability in the validity of self-reports, depending on the type of drug used and the characteristics of respondents (Collins & Marsden, 1990; Eckerman, Bates, Rachal, & Poole, 1971; Hubbard & Marsden, 1984). There is evidence that underreporting of drug use among

**Exhibit 3.5 Comparison of the Past Year Prevalence of Substance Use Among the Maine Adult Arrestee Sample with the Adult Household Population in Maine: 1997**

<b>Substance Used/Age (Years)</b>	<b>Maine Adult Arrestee Survey</b>	<b>Maine Adult Household Population<sup>1</sup></b>
<b>Alcohol</b>		
18-25	92.3	77.3
26-34	92.1	79.6
≥35	92.6	64.9
<b>Marijuana</b>		
18-25	87.0	30.6
26-34	68.0	13.8
≥35	48.9	5.0
<b>Hallucinogens</b>		
18-25	40.5	5.7
26-34	14.0	0.8
≥35	2.9	0.1
<b>Cocaine</b>		
18-25	31.2	2.9
26-34	23.0	1.6
≥35	15.1	0.3

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 3.5SE in Appendix C.

<sup>1</sup>Data are derived from the 1997 Maine Household Telephone Survey (Kroutil et al., 1998).

Source: Maine Adult Arrestee Survey: 1997.

arrestees and offenders varies by the type of drug, drug use history, and criminal history (Collins & Marsden, 1990; Wish, 1988) such that arrestees were more likely to underreport cocaine and crack use than the use of other drugs, and those with more extensive drug use histories or criminal histories were more likely than others to underreport drug use as well.

Urinalysis can provide a more objective indication of drug use, not subject to distortion or underreporting biases of respondents; therefore, it is frequently used among arrestee populations. However, urinalysis testing also has shortcomings (Feucht, Stevens, & Walker, 1994). The primary drawback of chemical screening is its rather severe time restriction in detecting the presence of drug metabolites. For most drugs, the tests can detect use only in the past 2 or 3 days. For marijuana, however, use during the past several weeks may be detectable, depending on the amount used, the strength of the drug, and other factors.

For the 1997 Maine Adult Arrestee Survey, urinalysis data were collected in addition to self-reported use for the following substances: alcohol, each of the four core illicit drugs (marijuana, cocaine, heroin/opiates, only PCP for hallucinogens), and for each of the six other illicit drugs (amphetamines, barbiturates, Quaaludes, Valium, Darvon, methadone). Details of the data collection and laboratory procedures are given in Section 1.3.3, and copies of the consent forms are in Appendix B.

### **3.5.1 Results of Urinalyses**

Urinalysis results are presented in Exhibit 3.6 as the percentage of males and females who had a positive urine test for alcohol and each of the 10 drugs tested. It should be noted that results presented in Exhibits 3.6 and 3.7 are based only on the 207 individuals who provided a urine sample as opposed to the entire sample of 505. Thus, the percentages of arrestees self-reporting substance use differs slightly from what has been presented earlier in this report. Approximately 22.1% of males and 29.4% of females tested positive for alcohol use.<sup>3</sup> Males tested positive more often for core illicit drug use than for alcohol use (45.9% vs. 22.1%); however, females tested positive more often for alcohol than for illicit drug use (29.4% vs. 15.4%). Similar to self-reports of use, marijuana was the most commonly detected substance for both males and females. No males or females tested positive for amphetamines or Quaaludes. Among both males and females, Valium was the drug that accounted for the majority of positive urine tests for other illicit drugs (5.2% for males and 16.3% for females).

Almost half of the males (45.9%) and 15.4% of the females tested positive for at least one core illicit drug. Of those who tested positive, the majority tested positive for marijuana (42.2% of males and 13.8% of females). Males were more likely than females to test positive for cocaine and heroin. In fact, no females tested positive for cocaine, and only 1.6% had heroin detected in their urine. There were no positive urine tests for PCP.

### **3.5.2 Revised Prevalence Estimates Incorporating Urinalysis Results**

One of the primary interests in urinalysis for this study was to examine the effects that underreporting might have on the prevalence estimates of self-reported substance use among adult arrestees. Exhibit 3.7 presents the percentages of Maine adult arrestees who reported alcohol and drug use in the past month (% Self-Reported) as well as revised estimates that incorporate urinalysis results (Revised %). The revised prevalence rates reflect an adjustment whereby individuals who denied use of a substance in the interview but tested positive for that

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<sup>3</sup>Enzyme immunoassay (EMIT) tests were used to conduct the urinalysis. EMIT is not very effective in detecting alcohol in the urine.

**Exhibit 3.6 Percentage of the Maine Adult Arrestee Sample Testing Positive for Substance Use, by Gender: 1997**

Substance Tested	Male	Female <sup>‡</sup>	Total
<b>Alcohol</b>	22.1	29.4	23.0
<b>Any Core Illicit Drug<sup>1</sup></b>	45.9	15.4	42.2
Marijuana	42.2	13.8	38.9
Cocaine	5.8	*	5.1
Heroin (including other opiates)	4.4	1.6	4.1
Hallucinogens <sup>2</sup>	*	*	*
<b>Other Illicit Drug<sup>3</sup></b>	5.9	27.0	8.5
Amphetamine	*	*	*
Barbiturates	0.2	2.1	0.5
Quaaludes	*	*	*
Valium	5.2	16.3	6.6
Darvon	2.5	4.9	2.8
Methadone	0.5	3.7	0.9

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 3.6SE in Appendix C.

\*Estimate equal to zero.

<sup>‡</sup>Met or exceeded the criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Positive test for any of the following drugs: marijuana, cocaine, heroin, or phencyclidine (PCP).

<sup>2</sup>Only includes testing for PCP.

<sup>3</sup>Positive test for any of the following drugs: amphetamines, barbiturates, methaqualone, Valium, Darvon, or methadone.

Source: Maine Adult Arrestee Survey: 1997.

substance were included as users in addition to those individuals who self-reported their use. It should be noted that this adjustment to the prevalence rates is conservative due to the restricted time frame for urinalysis efficacy (i.e., it is likely that there are additional respondents who denied use in the past month and tested negative due to nonuse in the past few days, but who had in fact used in the past month). Also presented in Exhibit 3.7 is the percentage of respondents who denied using a given substance who actually tested positive for that substance (% Underreported).

The results presented in Exhibit 3.7 show that the largest effect of underreporting is for marijuana use among both male and female arrestees. An estimated 43.4% of adult arrestees self-reported marijuana use in the past month. Of the remaining 56.6% who denied using it in the interview, an additional 8.2% had positive urine tests for marijuana. Therefore, the revised prevalence estimate of marijuana use among arrestees is higher: 51.6% (43.4% plus 8.2%) compared to 43.4% for self-reported data only. Among females, underreporting of Valium also

**Exhibit 3.7 Revised Prevalence Estimates for Past Month Substance Use in the Maine Adult Arrestee Sample, by Gender: 1997**

Substance Used	Male			Female <sup>‡</sup>			Total		
	% Self-reported <sup>1</sup>	% Under-reported <sup>2</sup>	Revised % <sup>3</sup>	% Self-reported <sup>1</sup>	% Under-reported <sup>2</sup>	Revised % <sup>3</sup>	% Self-reported <sup>1</sup>	% Under-reported <sup>2</sup>	Revised % <sup>3</sup>
<b>Alcohol</b>	79.2	*	79.2	78.3	7.4	85.7	79.1	0.9	80.0
<b>Any Core Illicit Drug<sup>4</sup></b>	47.8	10.5	58.2	35.1	11.3	46.4	46.2	10.6	56.8
Marijuana	44.8	8.0	52.8	33.5	9.7	43.2	43.4	8.2	51.6
Cocaine	11.8	1.1	12.9	*	*	*	10.3	1.0	11.3
Heroin (including other opiates)	6.6	4.0	10.6	1.6	1.6	3.2	6.0	3.7	9.7
Hallucinogens <sup>5</sup>	8.5	*	8.5	*	*	*	7.5	*	7.5
<b>Other Illicit Drug<sup>6</sup></b>	15.1	2.5	17.5	20.0	8.6	28.6	15.7	3.2	18.9
Amphetamines	2.5	*	2.5	1.6	*	1.6	2.4	*	2.4
Barbiturates	9.3	*	9.3	*	2.1	2.1	8.1	0.3	8.4
Quaaludes	2.3	*	2.3	*	*	*	2.0	*	2.0
Valium	5.4	4.5	10.0	7.4	9.0	16.3	5.7	5.1	10.7
Darvon	2.3	0.2	2.5	7.4	4.9	12.3	2.9	0.8	3.7
Methadone	0.5	*	0.5	3.7	1.6	5.2	0.9	0.2	1.1

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 3.7SE in Appendix C.

\*Estimate equal to zero.

<sup>‡</sup>Met or exceeded the criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Arrestees who reported using substance in the past month; expressed as percentage of total in gender category.

<sup>2</sup>Arrestees who denied using substance in the past month, but who tested positive for use of the substance, expressed as percentage of total arrestees in gender category.

<sup>3</sup>Arrestees who reported using substance in the past month and those who said they had not used but tested positive for the substance; expressed as percentage of total in gender category.

<sup>4</sup>Self-report includes any use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates) at least once in past year. Urinalysis results include positive test for any of the following drugs: marijuana, cocaine, heroin, or phencyclidine (PCP).

<sup>5</sup>Urinalysis only tested for use of PCP.

<sup>6</sup>Self-report includes any use of amphetamines, barbiturates, Quaaludes, Valium, Darvon, and methadone at least once in the past year. Urinalysis results include positive test for any of the following drugs: amphetamines, barbiturates, methaqualone, Valium, Darvon, or methadone.

Source: Maine Adult Arrestee Survey: 1997.



was common. In addition to the 7.4% who admitted using Valium in the past month, another 9.0% had positive urine screens for Valium, resulting in a revised prevalence rate of 16.3% for past month use. Among males, in addition to marijuana, the drugs with the highest rate of underreporting were Valium (4.5%) and heroin (4.0%).

### **3.6 Conclusions**

Rates of substance use were high for adults in the 1997 Maine Adult Arrestee Survey in terms of both lifetime use and use in the more recent time frames of the past year and past month. In particular, marijuana use was reported by a very substantial proportion of arrestees. About 70% of male arrestees and 53% of female arrestees reported marijuana use in the past year. These rates were substantially higher than those reported by Maine adults in the 1997 household survey (Kroutil et al., 1998). It is also important to consider that most respondents in the 1997 Maine Adult Arrestee Survey who reported heavy drinking or using at least one core illicit drug, in fact, used multiple substances. Further, many respondents who reported illicit drug use in the past year actually used more than one illicit substance during that same time. Results from urinalyses suggest that the self-reported rates presented here, if anything, slightly understate the prevalence of drug use, especially for marijuana. In addition, we expect that a large proportion of those arrestees who denied use in the interview and refused to provide a urine specimen for testing probably did so because they knew they would have come up positive for use.

## 4.0 SUBSTANCE DEPENDENCE/ABUSE AND TREATMENT NEEDS

In this chapter, we build on the substance use information presented in Chapter 3.0 and address three key questions related to the need for substance abuse treatment services among arrestees in Maine:

- What percentage of the Maine adult arrestee population is in need of treatment related to their use of alcohol or other drugs?
- What is the experience of the Maine adult arrestee population in regard to alcohol and drug treatment in the past 12 months?
- To what extent is there unmet need for treatment of alcohol or other drug problems in the Maine adult arrestee population?

For this study, "need for treatment" means the need for specific substance abuse treatment services, including detoxification, treatment in a residential treatment facility, services in a halfway house or "aftercare," or outpatient treatment in a formal treatment program. In addition, we examine in this chapter the overall need for other forms of intervention related to the abuse of alcohol or other drugs that could include formal treatment services or some other form of intervention. For example, "intervention" could include counseling by a health professional unaffiliated with a formal treatment program.

In the first section of this chapter, we discuss the need for substance abuse treatment and define a number of concepts used throughout the rest of the chapter: (1) symptoms of dependence and abuse, (2) problem patterns of use, and (3) need for intervention. Based on these definitions, we present in Section 4.2 findings on the percentages of Maine adult arrestees in 1997 who met DSM-III-R (APA, 1987) criteria for dependence or abuse of alcohol or any core illicit drug. In Section 4.3, we extend this work to look at the percentages of adult arrestees in need of treatment or intervention related to their use of alcohol or other drugs, then explore in Section 4.4 the treatment received by Maine adult arrestees in the year prior to the 1997 survey and their met and unmet demand for substance abuse treatment services. In Section 4.5, we present information about the co-occurrence of substance use and other problem behaviors (i.e., criminal or sexual behavior). The chapter concludes with a summary of the findings. As in previous chapters, we report all percentages as weighted estimates to ensure that the sample is representative of the overall Maine arrestee population (see Section 1.3.4 for a discussion of sampling weights).

## **4.1 Defining Need for Treatment**

By definition, anyone who received treatment in the past 12 months for abuse of alcohol or other drugs should be considered in need of treatment. However, this measure of need would miss people who did not receive treatment, but whose pattern of substance use or related problems would strongly suggest that such treatment is warranted. Consequently, relying solely on information about actual use of substance abuse treatment services would certainly underestimate the size of the arrestee population in Maine in need of treatment.

### **4.1.1 Symptoms of Dependence and Abuse**

Regardless of whether people actually received treatment, one group of people who would clearly be in need of substance abuse treatment services would be people who continue to use a given drug (e.g., alcohol, marijuana), even though that drug is causing them serious health problems or serious problems in their social functioning (e.g., relationship problems, problems at work or school). Few people would question the need to offer substance abuse treatment services or other help to someone who was unable to stop using a drug on his or her own despite the amount and seriousness of the problems that use of this drug was causing.

The APA has established criteria for psychoactive substance dependence or abuse that have been widely used as a standard for identifying people with serious problems. These criteria have been updated periodically and are published in diagnostic manuals, such as the DSM-III-R (1987), and the more recent fourth edition of this manual, DSM-IV (APA, 1994). The Maine Adult Arrestee Survey questionnaire measured symptoms of dependence or abuse based on the DSM-III-R (1987) criteria.

For a person to meet lifetime DSM-III-R (1987) diagnostic criteria for psychoactive substance dependence, three or more of the following symptoms need to have occurred in a person's lifetime:

1. use of a substance in larger amounts or over a longer period than intended;
2. persistent desire or one or more unsuccessful efforts to cut down or control substance use;
3. great deal of time spent getting the substance, taking the substance, or recovering from its effects;

4. frequent intoxication or withdrawal symptoms when expected to fulfill major role obligations, or when substance use is physically hazardous (e.g., OUI);
5. avoidance of important activities because of substance use;
6. continued substance use despite knowledge of persistent or recurrent problems caused or exacerbated by substance use;
7. marked tolerance (i.e., need for larger amounts of the substance to produce the desired effect);
8. characteristic withdrawal symptoms; and
9. use of the substance to relieve or avoid withdrawal symptoms.

Some of the symptoms need to have persisted for at least 1 month or to have occurred repeatedly for an extended period of time.

The DSM-III-R (1987) category of psychoactive substance abuse is a residual category for people who have never met the criteria for a diagnosis of dependence. Among people who have never met dependence criteria, a diagnostic categorization of substance abuse is characterized by:

1. continued substance use despite knowledge of persistent or recurrent problems caused or exacerbated by substance use, or
2. recurrent use in hazardous situations (e.g., OUI).

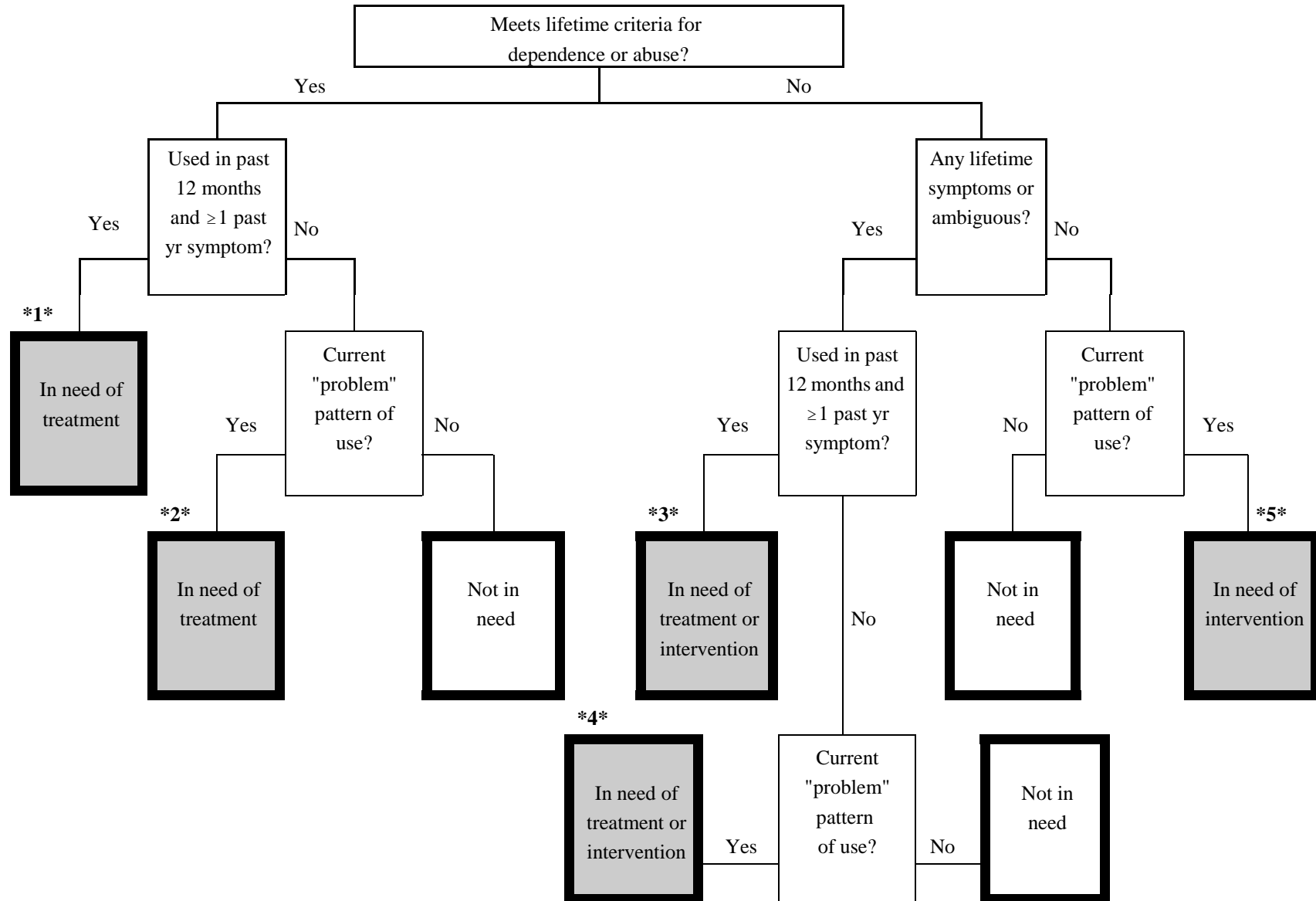
As for substance dependence, for a person to meet the diagnostic criteria for abuse, some of these symptoms need to have persisted for at least 1 month or to have occurred repeatedly for an extended period of time.

Exhibit 4.1 shows how treatment need can be determined based on the DSM-III-R (1987) diagnostic criteria, as well as other factors. The box labeled \*1\* consists of people who:

- met lifetime DSM-III-R (1987) dependence or abuse criteria for alcohol or another drug, as described above;
- used the substance of interest in the past 12 months; and
- had one or more symptoms of dependence or abuse in the past 12 months.

**Exhibit 4.1 Criteria for Determining Need for Treatment or Intervention**

4-4



As noted in Exhibit 4.1, people who met these conditions would be considered in need of treatment services in the past 12 months (McAuliffe et al., 1995). Stated another way, people who met the conditions for Box \*1\* (a) have had a significant lifetime history of substance abuse problems, (b) have recently used the substance that caused them problems, and (c) have had one or more recent problems related to their continued use of that substance.

#### **4.1.2 Problem Patterns of Use**

However, sole reliance on self-reported symptoms of dependence or abuse for establishing treatment need may be too stringent and may miss a significant group of people in need of treatment. Expanding treatment need definitions may be particularly useful for this sample of arrestees who have already demonstrated substance use in combination with antisocial or criminal behavior. Denial of substance-related problems despite a pattern of frequent or heavy substance use is not uncommon. For example, consumption of eight or more drinks of an alcoholic beverage in a single day<sup>1</sup> is certainly indicative of "problem" alcohol use, even if a person denies that this level of heavy consumption is associated with current problems.

Box \*2\* in Exhibit 4.1 consists of people who:

- met lifetime DSM-III-R (1987) dependence or abuse criteria for alcohol or another drug, as described above, and
- exhibited a "problem" pattern of use in the past 12 months, as described below.

As with people meeting the definitions for Box \*1\*, people with a lifetime diagnosis of dependence or abuse would be considered in need of treatment services if they reported a current "problem" pattern of substance use—even if they denied that such use was causing them problems. That is, a current "problem" pattern of consumption in conjunction with a lifetime history of dependence or abuse would suggest relapse and the need for treatment.

People were defined as having a current "problem" pattern of alcohol use if they indicated any of the following:

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<sup>1</sup>Consumption of eight or more drinks in a single day would be equivalent to consumption of more than a six-pack of beer, more than a bottle of wine, or about  $\frac{3}{4}$  pint of liquor.

- binge drinking in the past year;<sup>2</sup>
- consumption of eight or more drinks on average in a 24-hour period (six or more drinks for females) in the past year; or
- heavy alcohol consumption in the past year defined as consuming on average five or more drinks (four or more drinks for females) and reporting use of alcohol 50 or more times in the past year.<sup>3</sup>

A report of any of these behaviors would indicate some considerable consumption of alcohol in the past 12 months, either on a regular or episodic basis.

For drugs other than alcohol, people were defined as having a current "problem" pattern of use in the past 12 months if they indicated:

- use of marijuana 50 or more times in the past year;
- use of hallucinogens 50 or more times in the past year;
- any use of cocaine (including "crack" cocaine); or
- any use of heroin or other opiates.

Use of cocaine or heroin in the past 12 months was considered to be a "problem" pattern because of the highly addictive potential of these drugs once a person has tried them. Use of these two drugs was based on either self-reported use or a positive urine test. For marijuana and hallucinogen use, the frequency threshold of at least 50 times in the past year was employed to approximate weekly use, suggesting "hard-core" use that may be more likely to be associated with dependence on these drugs.

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<sup>2</sup>The questionnaire (see Appendix A) asked respondents if they had “ever gone on binges where they kept drinking for a couple of days or more without sobering up” and when was the last time they had gone on a binge.

<sup>3</sup>The questionnaire (see Appendix A) did not ask how often respondents had five (four for females) or more drinks in a 24-hour period in the past month. However, the questionnaire did ask how many drinks respondents usually had on days when they drank in the past 12 months and on how many days they drank in the past 12 months. The frequency threshold of at least 50 times in the past 12 months was employed to approximate weekly use.

### 4.1.3 Need for Intervention

Some substance users who have never met the criteria for a lifetime diagnosis of dependence or abuse (or who had an indeterminate diagnosis<sup>4</sup>) may also be in need of treatment, or they may be in need of less intensive intervention services, short of treatment in a formal treatment program. For example, a medical or mental health professional might counsel a heavy alcohol user about the potential adverse effects of continued heavy use and offer assistance in moderating or curtailing use.

Box \*3\* in Exhibit 4.1 consists of people who:

- never met lifetime DSM-III-R (1987) dependence or abuse criteria for alcohol or another drug, as described above;

but who

- had one or more lifetime symptoms of dependence or abuse, short of an actual diagnosis of dependence or abuse;
- had one or more symptoms of dependence or abuse for a given drug in the past 12 months; and
- used that particular drug in the past 12 months.

People who meet the definitions for Box \*3\* may be considered at risk for developing a full-blown clinical disorder and would be considered in need of some form of early intervention to prevent the development of more serious problems or to prevent potential societal harm as a result of risk behaviors, such as drunk driving .

Box \*4\* in Exhibit 4.1 consists of people who:

- never met lifetime DSM-III-R (1987) dependence or abuse criteria for alcohol or another drug, as described above;
- did not report any symptoms of dependence or abuse for a given drug in the past 12 months;

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<sup>4</sup>Consistent with McAuliffe et al. (1995), information about substance dependence was considered to be "ambiguous" if the respondent did not meet lifetime diagnostic criteria for dependence but (a) the respondent refused to answer or answered "don't know" to some of the questions needed to establish whether he or she met lifetime diagnostic criteria for dependence, and (b) the respondent would have otherwise met diagnostic criteria for dependence if he or she had answered "yes" to these questions, instead of refusing or answering "don't know."



but who:

- had one or more lifetime symptoms of dependence or abuse, short of an actual diagnosis of dependence or abuse; and
- reported a "problem" pattern of use, as described above.

As with those in Box \*3\*, people who met the definitions for Box \*4\* would be considered in need of a less intensive form of intervention. For example, a person who reported weekly use of marijuana in the past year might also report that he or she had one or more lifetime problems with marijuana, but that these problems occurred more than a year ago. However, a current pattern of weekly marijuana use might put this person at high risk for new problems.

Finally, Box \*5\* in Exhibit 4.1 consists of people who:

- never had any symptoms of dependence or abuse in their lifetimes, but
- reported a "problem" pattern of use, as described above.

As with Boxes \*3\* and \*4\*, people meeting the definitions for Box \*5\* would be considered in need of early intervention or educational services. For example, a person might deny that drinking has ever caused problems in his or her life, but may report a pattern of heavy alcohol use that would nevertheless suggest a potential problem with alcohol.

## **4.2 Specific Problems Associated with Alcohol or Illicit Drug Use**

Exhibit 4.2 shows percentages of the Maine adult arrestees who met the DSM-III-R (1987) criteria for substance abuse or dependence, as described above. Findings are presented separately for males and females and for alcohol and core illicit drugs, as well as for the combination of either alcohol or core illicit drugs. Percentages also are shown for both lifetime and past year, where dependence or abuse in the past year was defined as having met DSM-III-R (1987) criteria for dependence or abuse of a substance, having used that substance in the past 12 months, and having had one or more symptoms of dependence or abuse for that substance in the past 12 months.

The key finding in Exhibit 4.2 is that 71.1% of males and 61.7% of females in the 1997 Maine Adult Arrestee Survey met lifetime DSM-III-R (1987) criteria for either abuse or dependence of alcohol or one of the core illicit drugs. Most of the respondents who met lifetime criteria for dependence or abuse also met the criteria for past year dependence or abuse. Specifically, 89.9% of the males and 87.2% of the females who reported lifetime substance abuse

**Exhibit 4.2 Percentage Reporting Substance Use Dependence and Abuse in Their Lifetime and the Past Year in the Maine Adult Arrestee Sample, by Gender: 1997**

Dependence or Abuse	Alcohol		Any Core Illicit Drug <sup>1</sup>		Alcohol or Any Core Illicit Drug	
	Lifetime	Past Year	Lifetime	Past Year	Lifetime	Past Year
<b>Males</b>						
Dependence <sup>2</sup>	50.7	45.9 <sup>3</sup>	33.0	23.4 <sup>3</sup>	58.8	51.0 <sup>3</sup>
Abuse <sup>4</sup>	14.6	12.8 <sup>5</sup>	3.2	4.6 <sup>5</sup>	12.3	12.9 <sup>5</sup>
<b>Females</b>						
Dependence <sup>2</sup>	58.5	48.8 <sup>3</sup>	26.4	7.9 <sup>3</sup>	61.7	53.8 <sup>3</sup>
Abuse <sup>4</sup>	*	* <sup>5</sup>	4.0 <sup>‡</sup>	2.6 <sup>5</sup>	*	* <sup>5</sup>

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 4.2SE in Appendix C.

\*Estimate equal to zero.

<sup>‡</sup>Met or exceeded the criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates).

<sup>2</sup>As diagnosed by the DSM-III-R (1987), experienced three or more of the mentioned problems and experienced some of these problems for a month or more on a number of occasions.

<sup>3</sup>Met lifetime DSM-III-R (1987) criteria for dependence on a given drug, used the drug in the past 12 months, and had one or more symptoms of dependence on that drug in the past 12 months.

<sup>4</sup>As diagnosed by the DSM-III-R (1987), never had a lifetime diagnosis of dependence, and continued to use a drug despite adverse consequences, or used in hazardous situations. Some of these problems have persisted for a month or more.

<sup>5</sup>Met lifetime DSM-III-R (1987) criteria for abuse of a given drug, used that drug in the past 12 months, and had one or more symptoms of abuse for that drug in the past 12 months.

Source: Maine Adult Arrestee Survey: 1997.

problems were among those using substances and reporting symptoms within the past 12 months. The past year prevalence of substance dependence or abuse problems was 63.9% for males and 53.8% for females. These rates are seven to eight times higher than the corresponding rate from the 1997 Maine Household Telephone Survey, which was 8.1% in need of treatment for alcohol or illicit drug use for males and females combined (Kroutil et al., 1998). The rates of substance dependence among adult arrestees in Maine also are substantially higher than other published rates of substance dependence among adults in the United States. Those rates are similar to the ones found in the 1997 Maine Household Telephone Survey (Regier et al., 1988; Warner, Kessler, Hughes, Anthony, & Nelson, 1995).

Arrestees were much more likely to meet the criteria for a diagnoses of substance dependence than abuse. This was true for both males and females across all substance categories and across both time periods (i.e., lifetime and past year). As such, many adults in the Maine arrestee study suffered from disruptive symptoms in multiple domains of their lives. Although the threshold for meeting diagnostic criteria for substance abuse is lower than that for dependence, abuse is essentially a residual category that captures individuals who have had problems related to their substance use but who have never met the criteria for dependence. In other words, once someone has crossed the threshold of meeting the criteria for dependence for a given substance, it is not possible for him or her to receive the less severe diagnosis of abuse for that substance.

The percentage of arrestees who met the criteria for abuse or dependence of alcohol was higher than the percentage of those abusing or dependent on illicit drugs. In addition, males were more likely than females to have a diagnosis of abuse or dependence for both alcohol (58.7% vs. 48.8%) and illicit drugs (28.0% vs. 10.5%) within the past year.

Exhibit 4.3 illustrates the types of problems reported by respondents in the 1997 Maine Adult Arrestee Survey who met lifetime criteria for dependence or abuse. These problems correspond to the symptoms of dependence or abuse that were described above. Findings are presented for the occurrence of these problems in a person's lifetime and in the 12 months prior to the survey. Information about specific symptoms indicates which problems may be contributing most to the occurrence of abuse or dependence and which problems are most frequently occurring among individuals who meet the criteria of abuse or dependence.

For alcohol, the most commonly reported symptoms in the past year were continued use despite work or family problems (69.7%), use in physically hazardous situations (such as operating dangerous equipment) (65.0%), and being unable to quit or cut down (63.6%). These symptoms illustrate the compulsive and out-of-control nature of alcohol addiction. The

**Exhibit 4.3 Percentage Reporting Substance Use Problems in Their Lifetime and the Past Year in the Maine Adult Arrestee Sample Who Met Lifetime Dependence or Abuse Criteria: 1997**

Problem	Alcohol		Any Core Illicit Drug <sup>1</sup>		Alcohol or Any Core Illicit Drug	
	Lifetime	Past Year	Lifetime	Past Year	Lifetime	Past Year
Used larger amounts than intended	65.3	52.4	80.1	48.6	72.1	57.8
Unable to quit or cut down	62.6	63.6	74.6	29.8	72.4	66.7
Great deal of time using/getting over	57.2	42.6	78.7	49.0	67.4	52.0
Been high at work/school	62.5	45.0	70.7	36.6	67.6	48.9
Increased chances of getting hurt	86.9	65.0	76.9	45.7	88.4	67.8
Given up/reduced important activities	44.4	29.2	73.7	41.1	54.7	38.9
Continued use after emotional problems	55.5	45.3	72.8	46.8	63.3	49.0
Continued use after health problems	36.0	29.8	30.2	18.9	39.8	32.6
Continued use after family/work problems	84.3	69.7	72.6	45.3	87.3	71.6
Used more for same effect	68.6	49.2	82.2	46.2	77.0	57.0
Had withdrawal	49.3	37.1	66.4	34.2	61.9	45.7
Used to prevent withdrawal	51.7	38.3	51.6	35.1	58.1	44.7
Dependence <sup>2</sup>	80.1	71.7 <sup>3</sup>	90.8	60.6 <sup>3</sup>	84.6	73.4 <sup>3</sup>
Abuse <sup>4</sup>	19.9	17.4 <sup>5</sup>	9.2	12.4 <sup>5</sup>	15.4	16.2 <sup>5</sup>

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 4.3SE in Appendix C.

<sup>1</sup>Use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates).

<sup>2</sup>As diagnosed by the DSM-III-R (1987), experienced three or more of the mentioned problems and experienced some of these problems for a month or more on a number of occasions.

<sup>3</sup>Met lifetime DSM-III-R (1987) criteria for dependence on a given drug, used the drug in the past 12 months, and had one or more symptoms of dependence on that drug in the past 12 months.

<sup>4</sup>As diagnosed by the DSM-III-R (1987), never had a lifetime diagnosis of dependence, and continued to use a drug despite adverse consequences, or used in hazardous situations. Some of these problems have persisted for a month or more.

<sup>5</sup>Met lifetime DSM-III-R (1987) criteria for abuse of a given drug, used that drug in the past 12 months, and had one or more symptoms of abuse for that drug in the past 12 months.

Source: Maine Adult Arrestee Survey: 1997.

percentage of individuals reporting past year drug-related symptoms was lower: 49.0% reported spending a great deal of time using or getting over the effects of drugs, 48.6% said they frequently used more drugs than they had originally intended, and 46.8% stated they continued to use drugs despite emotional or psychological problems from using drugs. The least frequently reported past year symptoms for alcohol were: (1) giving up or reducing important activities (29.2%), and (2) continued use despite health problems (29.8%). The least common past year drug-related symptoms were: (1) continued use despite negative consequences to health (18.9%), and (2) being unable to successfully quit or cut down (29.8%).

## **4.3 Prevalence of Need for Treatment**

### **4.3.1 Overall Prevalence of Need**

Exhibit 4.4 shows the percentages of males and females in the Maine Adult Arrestee Survey who were considered to be in need of substance abuse treatment or intervention in the past year, according to the risk profile and definition of need for treatment presented in Section 4.1. Recall that individuals needing intervention display a less severe pattern of use, yet exhibit a risk profile that suggests early intervention would be effective.

In the year before the 1997 Maine Adult Arrestee Survey, an estimated 68.5% of males and 58.7% of females were in need of treatment related to their use of alcohol, marijuana, hallucinogens, cocaine, or heroin. Overall, 67.3% of arrestees were estimated to be in need of treatment. When need for intervention was combined with need for treatment, the percentage of arrestees estimated to be in “need” rose to 80.1% for males and 67.4% for females, for an overall rate of 78.5%. In other words, over three-quarters of the arrestees surveyed in the 1997 Maine Adult Arrestee Survey were in need of substance abuse treatment or intervention in the past year. These rates are substantially higher than the corresponding estimates from the 1997 Maine Household Telephone Survey which showed 8.1% of adults to be in need of treatment and 20.8% to be in need of treatment or intervention in the past year due to substance (alcohol or drug) use (Kroutil et al., 1998).

Because the estimates for this study were based on a sample of arrestees, as opposed to a census of every arrestee in Maine, there is some variability in the estimates; if a different sample were drawn and a new set of interviews had been conducted, lower or higher estimates of treatment need might be observed. A 95% confidence interval for the estimated percentage of arrestees in need provides an indication of the range of possible values in which the true percentage of the population of arrestees in need of treatment is likely to be found. The lower and upper bounds, respectively, of the 95% confidence interval for the proportion of arrestees in

**Exhibit 4.4 Percentage of the Maine Adult Arrestee Sample in Need of Alcohol or Illicit Drug Use Treatment or Intervention in the Past Year, by Gender: 1997**

Measure	Male	Female	Total
<b>In Need of Treatment<sup>1</sup></b>			
Alcohol <sup>2</sup>	60.7	48.8	59.2
Any core illicit drugs <sup>2,3</sup>	29.4	18.5	28.1
Either alcohol or illicit drugs	68.5	58.7	67.3
<b>In Need of Treatment or Intervention<sup>1</sup></b>			
Alcohol <sup>2</sup>	73.4	56.8	71.4
Any core illicit drugs <sup>2,3</sup>	44.9	23.9	42.4
Either alcohol or illicit drugs	80.1	67.4	78.5

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 4.4SE in Appendix C.

<sup>1</sup>Definitions of treatment and intervention need are given in Section 4.1.

<sup>2</sup>Respondents who qualified as in “need of treatment” based only on having received treatment in the past 12 months (i.e., no dependence/abuse in past year or current problem pattern of use) are not considered to be in need of services for alcohol-only or drug-only percentages because the questionnaire did not specify type of substance for which treatment was received.

<sup>3</sup>Use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates).

Source: Maine Adult Arrestee Survey: 1997.

Maine in need of treatment for problems with alcohol or drug use are 62.2% and 72.4%. The lower and upper bounds, respectively, of the 95% confidence interval for the proportion of arrestees in Maine in need of treatment or intervention related to their alcohol or drug use are 74.2% and 82.8%.

Exhibit 4.4 also presents the percentages of arrestees in need of services by type of substance (i.e., alcohol vs. core illicit drugs). Males were more likely to need treatment or intervention for both alcohol and illicit drugs. Overall, 60.7% of males needed alcohol treatment compared to 48.8% of females, and 29.4% of males needed treatment for core illicit drugs contrasted with 18.5% of females. When collapsing need for formal treatment and less-intensive intervention, 73.4% of the males were considered in need of treatment/intervention for alcohol and 44.9% needed assistance for core illicit drug use, compared with 56.8% of females needing alcohol treatment and 23.9% needing services for problematic core illicit drug use. For males and females combined, a larger proportion of arrestees were in need of treatment or intervention for problems with alcohol alone (34.9%) than with core illicit drugs alone (5.9%). However, the largest proportion was in need of treatment or intervention for both alcohol and core illicit drugs (36.5%). The core illicit drug most often associated with a need for treatment or intervention alone or in combination with other core illicit drugs was marijuana (33.8%).

### **4.3.2 Need for Treatment or Intervention, by Age**

Exhibit 4.5 presents the percentages of males and females in the 1997 Maine Adult Arrestee Survey in need of treatment or intervention by age. In general, the percentages were relatively similar across the three age groups for males, while females aged 18 to 24 had the lowest need for treatment or intervention. Males aged 45 or older were slightly more likely to need treatment (70.7%), whereas a large proportion of young males 18 to 24 needed intervention (83.0%). Almost all young males in this sample reported problematic levels of use or disruption in functioning due to alcohol or drugs. This young male arrestee population is therefore a critical one for intervention because without help they will likely continue to recycle through the system. Females aged 25 to 44 had a fairly high need for treatment (67.6%). The data on the need for treatment or intervention for females in the other age groups should be interpreted with caution due to the small number in each of these cells.

## **4.4 Treatment History**

### **4.4.1 Treatment and Intervention History**

Exhibit 4.6 shows the percentages of males and females in the 1997 Maine Adult Arrestee Survey who had received various forms of assistance for substance use in their lifetime or in the past year. Almost one-half (48.1%) of adult arrestees in Maine had received at least some kind of treatment or intervention in their lifetime for their use of alcohol or other drugs; such assistance could include detoxification, residential treatment, living in a halfway house, outpatient treatment, participating in self-help groups (such as Narcotics Anonymous [NA]), counseling from a clinician, and pastoral counseling. Approximately 34.3% had received treatment or intervention for their substance use in the past year from at least one of these various sources. The proportions of male and female arrestees who had received treatment or intervention in their lifetime were similar; however, more females than males had received treatment services within the past year (43.6% vs. 33.0%).

The use of less formal and intensive treatment services or interventions (e.g., self-help groups, pastoral counseling) was as common among arrestees as the use of formal treatment services (42.0% vs. 43.7%). In terms of specific types of treatment or intervention, the most popular services among males and females was self-help groups, followed by formal treatment within an outpatient or residential setting. A much smaller percentage of respondents had been in a halfway house or had received counseling either from a clinician (i.e., doctor, psychologist, or social worker) outside a formal program or from a pastoral counselor. Many respondents received multiple treatments or interventions from multiple sources. It is clear that arrestees were utilizing a continuum of services to address their substance abuse-related problems.

**Exhibit 4.5 Percentage of the Maine Adult Arrestee Sample in Need of Treatment or Intervention, by Age and Gender: 1997**

Measure	Male	Female	Total
<b>In Need of Treatment<sup>1</sup></b>			
18-24	68.2	35.9 <sup>‡</sup>	64.9
25-44	68.3	67.6	68.2
45 or older	70.7	56.3 <sup>‡</sup>	68.8
Total	68.5	58.7	67.3
<b>In Need of Treatment or Intervention<sup>1</sup></b>			
18-24	83.0	38.8 <sup>‡</sup>	78.5
25-44	78.9	76.4	78.6
45 or older	78.4	77.5 <sup>‡</sup>	78.3
Total	80.1	67.4	78.5

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 4.5SE in Appendix C.

<sup>‡</sup>Met or exceeded the criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Definitions of treatment and intervention need are given in Section 4.1.

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 4.6 Percentage of the Maine Adult Arrestee Sample Who Received Treatment or Intervention in Their Lifetime and the Past Year, by Gender: 1997**

Measure	Lifetime <sup>1</sup>			Past Year <sup>1</sup>		
	Male	Female	Total	Male	Female	Total
<b>Any Treatment<sup>2</sup></b>	43.1	48.4	43.7	24.7	41.3	26.7
Detoxification	20.9	41.0	23.3	12.6	25.8	14.2
Residential treatment	25.2	40.5	27.0	8.3	26.2	10.5
Halfway house	8.8	11.7	9.1	2.3	2.6	2.3
Outpatient treatment	32.2	29.8	31.9	18.6	27.2	19.7
<b>Other Forms of Intervention<sup>3</sup></b>	42.0	43.9	42.2	25.5	32.9	26.4
Self-help groups	35.8	41.7	36.6	20.0	30.2	21.3
Counseling from doctor, psychologist, social worker	15.9	20.5	16.4	9.4	16.1	10.2
Pastoral counseling	11.5	14.4	11.8	8.8	8.6	8.8
<b>Any Treatment or Intervention<sup>4</sup></b>	48.1	48.8	48.1	33.0	43.6	34.3

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 4.6SE in Appendix C.

<sup>1</sup>Questions about treatment history were not asked of respondents who were lifetime abstainers of alcohol or other drugs.

<sup>2</sup>Includes detoxification, residential treatment, halfway house services, or outpatient treatment.

<sup>3</sup>Includes substance abuse counseling through a mental health provider, attendance at self-help groups, receipt of pastoral counseling for substance abuse, or participation in programs for people arrested or convicted of operating under the influence (OUI).

<sup>4</sup>Any treatment, as defined in footnote 2, or any other form of intervention, as defined in footnote 3.

Source: Maine Adult Arrestee Survey: 1997.



However, utilization of no-cost, self-help groups remained the most common source of assistance.

#### **4.4.2 Treatment and Intervention History Among Arrestees in Need**

Exhibit 4.7 presents the self-reported history for the same types of treatment and other forms of intervention as above, except that the data are only for those respondents in the 1997 Maine Adult Arrestee Survey who were determined to be in need of alcohol or drug treatment (as defined in Section 4.1). In particular, estimates of the percentages of arrestees in need of treatment in the past year who actually received assistance of some kind indicate the “met need” for treatment. Conversely, estimates of the percentages of arrestees in need of treatment in the past year who did not receive any assistance is an indication of the “unmet need” for treatment. In addition, because the estimates presented here are based only on arrestees in need of treatment and do not include those in need of intervention, they are thus focused on the most severe cases. Planning for treatment services should therefore consider these estimates to be conservative in that those in need of intervention represent an additional group of arrestees in need of less intensive substance abuse services for their use of alcohol or drugs and could be in need of treatment at some future time if their level of problem substance use continues to escalate.

In the Maine Adult Arrestee Survey, an estimated 65.7% of respondents in need of alcohol or drug treatment during the past year reported having received treatment or other forms of intervention during their lifetime. A somewhat smaller percentage, 49.2%, of those in need during the past year had received treatment or intervention during that year. Therefore, slightly over one-half (50.8%) of those in need of treatment or intervention during the past year had not received any form of assistance. The 95% confidence interval for this estimate indicates that the percentage of arrestees in need of treatment or intervention in Maine who had actually received assistance was between 42.5% and 55.9%. That means that somewhere between 44.1% and 57.5% of arrestees in need of treatment or intervention did not receive any type of assistance.

Percentages for specific types of treatment and intervention follow the same patterns as described earlier for the total sample. Halfway houses were the least commonly reported type of treatment, self-help groups and outpatient treatment were generally the most commonly reported types of assistance, and the majority of arrestees who received services received multiple services. In general, a greater percentage of female arrestees in need of alcohol or drug treatment reported having received treatment and intervention during their lifetime and in the past year than did their male counterparts. Females were more likely to utilize both formal and informal treatment services.

**Exhibit 4.7 Percentage of the Maine Adult Arrestee Sample in Need of Alcohol or Any Core Illicit Drug Use Treatment Who Received Treatment or Intervention in Their Lifetime and the Past Year, by Gender: 1997**

Measure	Lifetime <sup>1</sup>			Past Year <sup>1</sup>		
	Male	Female	Total	Male	Female	Total
<b>Any Treatment<sup>2</sup></b>	58.8	82.5	61.3	36.0	70.4	39.7
Detoxification	29.4	69.9	33.7	18.4	44.0 <sup>‡</sup>	21.1
Residential treatment	34.2	69.1	37.9	12.1	44.6 <sup>‡</sup>	15.5
Halfway house	12.1	19.8	12.9	3.3	4.5	3.4
Outpatient treatment	43.4	50.8 <sup>‡</sup>	44.2	27.2	46.3 <sup>‡</sup>	29.2
<b>Other Forms of Intervention<sup>3</sup></b>	55.6	74.2	57.5	35.3	55.3 <sup>‡</sup>	37.4
Self-help groups	48.0	70.4	50.4	27.3	50.7 <sup>‡</sup>	29.8
Counseling from doctor, psychologist, social worker	19.9	34.9	21.5	12.4	27.4	14.0
Pastoral counseling	16.3	24.5 <sup>‡</sup>	17.1	12.7	14.6 <sup>‡</sup>	12.9
<b>Any Treatment or Intervention<sup>4</sup></b>	63.7	82.5	65.7	46.3	73.5	49.2

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 4.7SE in Appendix C.

<sup>‡</sup>Met or exceeded the criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Questions about treatment history were not asked of respondents who were lifetime abstainers of alcohol or other drugs.

<sup>2</sup>Includes detoxification, residential treatment, halfway house services, or outpatient treatment.

<sup>3</sup>Includes substance abuse counseling through a mental health provider, attendance at self-help groups, receipt of pastoral counseling for substance abuse, or participation in programs for people arrested or convicted of operating under the influence (OUI).

<sup>4</sup>Any treatment, as defined in footnote 2, or any other form of intervention, as defined in footnote 3.

Source: Maine Adult Arrestee Survey: 1997.

#### **4.4.3 Met and Unmet Demand for Substance Abuse Services in the Past Year**

In the previous section, we presented evidence that almost 50% of arrestees in need of alcohol or drug treatment had not received any form of treatment or intervention in the past year. This estimate is just one example of how to examine unmet need for drug and alcohol treatment among adult arrestees. In addition, the 1997 Maine Adult Arrestee Survey also assessed the degree to which respondents who had received services wanted additional services but did not receive them, and the degree to which individuals felt that they needed treatment but did not receive services. In other words, this unmet demand reflects the unmet need for drug and alcohol treatment based on the perceptions of respondents in the survey.

Results from these analyses are presented in Exhibits 4.8 and 4.9. An estimated 17.0% of respondents surveyed in the 1997 Maine Adult Arrestee Survey had, in the past year, either

**Exhibit 4.8 Percentage of Met and Unmet Demand for Substance Abuse Services in the Past Year in the Maine Adult Arrestee Sample, by Gender: 1997**

Measure	Male	Female	Total
<b>Received Treatment or Intervention</b>			
Treatment <sup>1</sup>	24.7	41.3	26.7
Intervention <sup>2</sup>	25.5	32.9	26.4
Any treatment or intervention <sup>3</sup>	33.0	43.6	34.3
<b>Unmet Demand</b>			
Wanted additional services <sup>4</sup>	13.8	14.7	13.9
Felt the need for treatment, but did not receive	4.0	0.6 <sup>‡</sup>	3.6
Any unmet demand <sup>5</sup>	17.4	14.4	17.0

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 4.8SE in Appendix C.

<sup>‡</sup>Met or exceeded the criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Received detoxification, residential treatment, halfway house services, or outpatient treatment.

<sup>2</sup>Attended self-help group, received counseling from doctor, psychologist, or social worker, or received pastoral counseling.

<sup>3</sup>Received any treatment or other forms of assistance in past 12 months for alcohol or other drug abuse, as described in footnotes 1 and 2.

<sup>4</sup>Received at least some assistance for alcohol or drug abuse, but wanted additional services.

<sup>5</sup>Wanted additional treatment or other services in the past 12 months, or felt the need for treatment in the past 12 months, but did not receive assistance.

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 4.9 Percentage of Unmet Demand for Substance Abuse Services in the Past Year in the Maine Adult Arrestee Sample, by Age and Gender: 1997**

Age (years)	Male	Female	Total
18-24	17.3	* <sup>‡</sup>	15.5
25-44	17.2	18.7	17.4
45 or older	18.9	21.3 <sup>‡</sup>	19.2

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 4.9SE in Appendix C. Unmet demand was measured by self-reports that an arrestee wanted additional treatment or other services in the past 12 months, or felt the need for treatment in the past 12 months, but did not receive assistance.

<sup>‡</sup>Met or exceeded the criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

Source: Maine Adult Arrestee Survey: 1997.

wanted additional substance abuse services or felt they needed services but did not receive any. This is about half again the number of arrestees who reported receiving substance abuse services in the past year. In fact, the majority of those arrestees had received services, but had wanted additional types of assistance.

Only a small proportion of males (4.0%) and almost no females admitted wanting any treatment or intervention. When contrasted with our earlier determination of need for treatment or intervention based on drug use and symptoms, these findings imply that many individuals with substance abuse disorders do not recognize the relationship between their substance use and negative consequences. More education may be necessary to break through this denial and improve awareness. The data clearly suggest that there is a group of individuals desiring treatment who have not yet received it. Unmet demand for treatment was similar for males of all age groups (Exhibit 4.9). Although the data on unmet demand for treatment reported by females should be treated cautiously due to the low number responding to this item, at least females 25 to 44 years of age had almost the same level of unmet demand as males of that age.

## **4.5 Co-occurrence of Substance Use and Other Problems**

In this section, we examine the relationship between substance use and other behaviors (specifically, criminal justice involvement and the number of sexual partners in the past year). The relationship between substance abuse and criminal behavior has been well documented, particularly for such drugs as crack cocaine and heroin (Chaiken & Chaiken, 1990; Hunt, 1990; Johnson, Williams, Dei, & Sanabria, 1990). It is important to understand the relationship between substance use and other health and social problems among arrestees because, if little or nothing is done to address substance use problems among criminal offenders, the probability of recidivism is high when they are released.

### **4.5.1 Substance Use and Criminal Justice Involvement**

In this section, we examine the relationship between substance use and the number and type of arrest charges. Use of alcohol was divided into three categories (no use, moderate use, and heavy use) to explore differences in patterns of problem behavior for those who abstain, drink moderately, or drink heavily. Use of drugs was divided into only two categories (no use vs. any use). Any use, as opposed to heavy use, was investigated because any use of these illegal drugs can be considered problematic. The four core drugs were considered in these analyses: marijuana (including hashish), hallucinogens, cocaine (including crack), and heroin (including other opiates).

Exhibit 4.10 shows these relationships among all arrestees in the 1997 Maine Adult Arrestee Survey. In particular, much larger percentages of respondents who reported heavy drinking had been arrested two or more times in the past year. In fact, more than half (54.2%) of those who reported heavy alcohol use had been arrested two or more times compared to a third of more moderate drinkers (37.9%) and slightly more than 20% of abstainers (22.8%). The same pattern was exhibited among those who had used illicit drugs, almost 50% of whom reported two or more arrests in the past year (49.7%) compared to only 26.0% of those who had not used core illicit drugs in the past year. In interpreting these results, it is important to keep in mind that a majority of arrestees who reported heavy alcohol use also reported illicit drug use.

In terms of the type of arrest charge, there did not appear to be any association with level of alcohol use or core illicit drug use. Miscellaneous crimes and crimes against persons were the most commonly reported crimes among all subgroups. However, illicit drug users were somewhat more likely than nonusers to be arrested for substance-related crimes, but this was not the case for heavy alcohol users and moderate alcohol users or abstainers.

**Exhibit 4.10 Past Year Criminal Justice Involvement in the Maine Adult Arrestee Sample, by Use of Alcohol or Illicit Drugs in the Past Year: 1997**

Type of Arrest/Charge	Alcohol			Any Core Illicit Drug	
	No Use	Moderate Use <sup>1</sup>	Heavy Use <sup>2</sup>	No Use	Any Use <sup>3</sup>
<b>Number of Arrests</b>					
0	26.7 <sup>‡</sup>	16.3	11.5	24.5	11.6
1	50.4 <sup>‡</sup>	45.8	34.3	49.5	38.7
2 or more	22.8	37.9	54.2	26.0	49.7
<b>Current Charge of Arrest</b>					
Crimes against persons	23.6	15.3	21.6	17.5	18.7
Crimes against property	19.7	14.4	15.1	13.0	16.0
Substance-related crimes	8.7 <sup>‡</sup>	8.5	4.9	4.6	8.2
Miscellaneous crimes	48.0 <sup>‡</sup>	61.8	58.3	64.9	57.1

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 4.10SE in Appendix C.

<sup>‡</sup>Met or exceeded the criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Consumed alcohol in the past year but did not qualify for heavy use.

<sup>2</sup>Five or more drinks (four for females) 50 or more times in the past year.

<sup>3</sup>Use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates).

Source: Maine Adult Arrestee Survey: 1997.

Exhibit 4.11 shows the same relationships with criminal justice involvement except by need for treatment and need for treatment or intervention. Individuals in need of treatment or intervention reported higher arrest rates than did those who did not report substance use. Specifically, 49.6% of arrestees in need of treatment reported two or more arrests compared to 29.4% of respondents who had no need for treatment. Arrest rates were in about the same relationship among those in need of treatment or intervention. Overall, 46.6% of arrestees needing treatment or intervention reported two or more arrests as compared to only 30.0% who had no such need. These findings support the claim that substance use is related to criminal behavior. However, individuals needing treatment alone or treatment or intervention were no more likely to report crimes against persons, crimes against property, miscellaneous crimes, or substance-related crimes than were persons without such needs.

#### **4.5.2 Substance Use and Sexual Behavior**

In this section, we examine the number of sexual partners reported in the past year and its relationship to substance use among Maine adult arrestees. This is particularly important from a public health point of view for continuing the spread of HIV/AIDS and other sexually transmitted diseases (STDs). In Exhibit 4.12, the number of sexual partners in the past year is presented by use of alcohol, illicit drug use, and injection of drugs in the past 6 months. There is a clear trend for a greater proportion of arrestees who reported heavy alcohol use and use of illicit drugs also to report having more sexual partners. Almost 40% of arrestees who reported heavy alcohol use (39.1%) and any illicit drug use (39.2%) also reported having three or more sexual partners in the past year. In contrast, 14.0% of arrestees who reported no alcohol use, 30.2% of those who reported moderate alcohol use, and 14.9% of those who reported no core illicit drug use reported having had three or more sexual partners in the past year. Among those who had injected drugs in the past 6 months, almost one-half (48.4%) had three or more partners in the past year. This compares to 31.6% of arrestees who did not inject drugs and who reported having three or more sexual partners. Because the number of arrestees reporting the injection of drugs was small, one should be wary of these estimates.

In Exhibit 4.13, the relationship is shown between the number of sexual partners in the past year and the need for treatment alone or treatment or intervention in the past year. More than one-third (37.5%) of arrestees in need of drug or alcohol treatment and 36.3% of those in need of treatment or intervention reported having three or more sexual partners in the past year. This compares to about half that proportion among arrestees with no need for treatment (21.6%) and no need for treatment or intervention (17.8%). These findings support the general belief that substance use is not only related to involvement in the criminal justice system, but also is related to other types of risky behavior, such as the number of sexual partners. Arrestees' involvement

**Exhibit 4.11 Past Year Criminal Justice Involvement in the Maine Adult Arrestee Sample, by Need for Treatment or Intervention in the Past Year: 1997**

Type of Arrest/Charge	Service Needs, Past 12 Months			
	No Need for Treatment	Need for Treatment <sup>1</sup>	No Need for Treatment or Intervention	Need for Treatment or Intervention <sup>2</sup>
<b>Number of Arrests</b>				
0	29.8	8.2	27.7	11.8
1	40.8	42.2	42.3	41.6
2 or more	29.4	49.6	30.0	46.6
<b>Current Charge of Arrest</b>				
Crimes against persons	18.4	18.4	18.7	18.3
Crimes against property	16.2	14.6	18.5	14.2
Substance-related crimes	8.9	6.3 <sup>‡</sup>	9.2	6.6 <sup>‡</sup>
Miscellaneous crimes	56.6	60.7	53.6	60.9

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 4.11SE in Appendix C.

<sup>‡</sup>Met or exceeded the criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Need for treatment related to use of alcohol or other drugs. Criteria for establishing need for treatment are discussed in Section 4.1.

<sup>2</sup>Need for treatment or intervention related to use of alcohol or other drugs. Criteria for establishing need for treatment are discussed in Section 4.1.

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 4.12 Number of Sexual Partners in the Past Year Among the Maine Adult Arrestee Sample, by Use of Alcohol, Illicit Drugs, and Past 6-Month Injection of Drugs: 1997**

Number of Sexual Partners	Alcohol			Any Core Illicit Drugs		Injection of Drugs	
	No Use	Moderate Use <sup>1</sup>	Heavy Use <sup>2</sup>	No Use	Any Use <sup>3</sup>	No Use	Any Use <sup>‡</sup>
0	28.9	5.0	4.0	10.6	4.9	6.8	*
1	52.2 <sup>‡</sup>	44.5	39.2	60.2	36.3	42.7	51.6
2	4.8	20.3	17.7	14.3	19.6	18.8	*
3 or more	14.0	30.2	39.1	14.9	39.2	31.6	48.4

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 4.12SE in Appendix C.

<sup>‡</sup>Met or exceeded the criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

\*Estimates equal to zero.

<sup>1</sup>Consumed alcohol in the past year but did not qualify for heavy use.

<sup>2</sup>Consumed on average five or more drinks (four for females) and reported using alcohol 50 or more times in the past year.

<sup>3</sup>Use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates).

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 4.13 Number of Sexual Partners in the Past Year in the Maine Adult Arrestee Sample, by Need for Treatment or Intervention in the Past Year: 1997**

Number of Sexual Partners	Service Needs, Past 12 Months			
	No Need for Treatment	Need for Treatment <sup>1</sup>	No Need for Treatment or Intervention	Need for Treatment or Intervention <sup>2</sup>
0	9.9	4.9 <sup>‡</sup>	10.0	5.6
1	48.2	40.6	54.0	40.1
2	20.3	17.0	18.2	18.0
3 or more	21.6	37.5	17.8	36.3

Note: Data entries are weighted percentages. Standard errors are shown in Exhibit 4.13SE in Appendix C.

<sup>‡</sup>Met or exceeded the criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Need for treatment related to use of alcohol or other drugs. Criteria for establishing need for treatment are discussed in Section 4.1.

<sup>2</sup>Need for treatment or intervention related to use of alcohol or other drugs. Criteria for establishing need for treatment are discussed in Section 4.1.

Source: Maine Adult Arrestee Survey: 1997.

in multiple risk behaviors highlights the critical need for multipronged interventions to reduce substance abuse, prevent the spread of HIV/AIDS, and other STDs, as well as to deter the social cost of other risk behaviors.

## 4.6 Conclusions

Results presented in this chapter build upon the prevalence information presented in Chapter 3.0 that show the rates of use of alcohol and illicit drugs to be very high among the arrestee population. Findings in this chapter show that the proportion of arrestees engaging in extensive substance use in 1997 likely to result in dependency and/or problems also was substantial. More than 70% of the male arrestees (71.1%) and nearly 62% of female arrestees (61.7%) in this study had a lifetime diagnosis of substance dependence or abuse. Almost all of the respondents who qualified for a lifetime diagnosis continued to use the substance in the past year and reported at least one problem related to substance use in the past year: 89.9% of male arrestees and 87.2% of female arrestees. These rates are much higher than one would expect based on published rates of substance dependence or abuse for household residents and other community-based samples of adults.



The second key finding presented in this chapter is that 67.3% of adult arrestees in the 1997 Maine Adult Arrestee Survey were in need of alcohol or drug treatment in the past year. When the definition of “need” is expanded to include those in need of less intensive intervention related to their alcohol or drug use, more than three-quarters (78.5%) of the arrestees were in “need” of services.

Results from the 1997 Maine Adult Arrestee Survey also demonstrate that not only is there a substantial need for services among adult arrestees, but also that a significant portion of this need is not being met. Overall, 48.1% of arrestees had received some treatment or assistance for problems with alcohol or drug use during their lifetime, and 34.3% had received services in the past year. When history of treatment was examined specifically for those in need of alcohol or drug treatment, the percentages of arrestees who had received services were higher: 65.7% had received services in their lifetime, and 49.2% had received services in the past year. However, these estimates still indicate that slightly more than 50% of those in need of alcohol or drug treatment in the past year had not received any services in the past year. In addition, 17.0% of arrestees indicated that they wanted but did not receive treatment or they received some services but needed more.

The final question addressed in this chapter concerns the relationship between substance use and other problems, specifically, criminal justice system involvement and risky sexual behavior (i.e., number of sexual partners). Findings from the 1997 Maine Adult Arrestee Survey indicated that substance use, especially illicit drug use and heavy alcohol use, were related to the number of arrests. Approximately one-half of the arrestees who reported heavy alcohol use or illicit drug use also reported two or more arrests in the past year, approximately double the rate among arrestees who reported no alcohol use or who reported no illicit drug use. When the number of arrests in the past year were examined specifically among those in need of drug or alcohol treatment, the rates were considerably higher than those with no need for treatment; 49.6% of those in need of treatment reported two or more arrests in the past year versus 29.4% for those with no such need. The percentages of arrestees reporting three or more sexual partners in the past year also were highest for those reporting illicit drug use and heavy alcohol use (39.1% and 39.2%, respectively) and were considerably higher among arrestees in need of treatment as compared to those without such a need (37.5% and 21.6%, respectively).

These findings, when taken together, indicate a substantial need for drug and alcohol services among adult arrestees in Maine. They also indicate that a large proportion of this need is not currently being met. Finally, results indicate that substance use and the need for substance abuse treatment or intervention are related to other problems, including increased involvement in the criminal justice system and high-risk sexual behavior.

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## **APPENDIX A**

### **Maine Adult Arrestee Survey**

For a copy of the full questionnaire, please contact

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Maine Office of Substance Abuse  
Information and Resource Center  
#159 State House Station  
A.M.H.I. Complex  
Marquardt Building, 3<sup>rd</sup> Floor  
Augusta, Maine 04333-0159  
Web: <http://janus.state.me.us/dmhmrso/osa>  
E-mail: [osa.ircosa@state.me.us](mailto:osa.ircosa@state.me.us)  
1-800-499-0027  
TTY: 207-287-4475  
TTY (toll free in Maine): 1-800-215-7604

## **APPENDIX B**

### **Informed Consent Forms**

## Interview Consent Form - Treatment Needs Among Arrestees

Hello, my name is \_\_\_\_\_, and I am employed by Research Triangle Institute (RTI), a research firm in North Carolina to conduct this interview with you. We are doing a study for the Maine Office of Substance Abuse to learn about the health, substance use, and treatment needs of people in the criminal justice system. The findings from the study will be used to plan substance abuse treatment programs in Maine.

We are going to interview about 450 men and 100 women who have been arrested and booked in Cumberland and Penobscot counties. You have been selected from among newly arrested adults to participate in this study. You were selected completely at random. If you agree to participate, I will ask you questions about your background, education, and employment. Other questions will ask about your use of tobacco, alcohol, and drugs, and about your sexual experiences, legal problems, and treatment experiences. The interview should take about 45 minutes to an hour. Before I go any further, I need to find out how old you are?**(IF RESPONDENT IS UNDER 18 END THE INTERVIEW)**

Participating in this study is completely voluntary, and you have the right to refuse to be interviewed. You can also stop the interview at any time. Whatever you decide will not affect how you are treated by the police or the courts. If you agree to be interviewed, you may also skip any questions that you do not want to answer.

Your privacy will be respected, and information about you will be kept confidential. The interview form will be given a code number. Your name will not be on the interview, and your name will not appear in any reports of the study results. No one will tell the courts, the police, or anyone else what you say in the interview. However, if you told me that you were about to hurt yourself or someone else, or that you are presently seriously hurting or neglecting a child, I would be required to report that. The Federal Government has issued a Certificate of Confidentiality to the researchers who are conducting this study. This certificate protects us from being forced to release any information in which you are identified, even under court order or subpoena. In addition, everyone on the research team who has access to private information must sign an agreement to safeguard the privacy of the people who take part in the study.

While you are completing the interview, we will give you snacks to thank you for participating in the study. Being in the study will not make the way you are treated by the police or the courts either better or worse. That explains what the study is about. Do you have any questions?

Now I'd like to read a statement to you. Because we want to be sure that your answers will be completely protected, I will sign my name here. My signature shows that you have given me your permission to do this interview, but will ensure that your answers are never associated with your name.

### *Indication of Consent to be Interviewed*

"The interviewer has read the information on this form to me, and I have had the opportunity to ask questions. I agree to be interviewed for this study. I understand that I have the right to skip any question I do not want to answer. I also understand that I can stop the interview at any time without it affecting how I am treated by the police or the courts. I understand that I will be given snacks while I am completing the interview and receive an unsigned copy of this form."

\_\_\_\_\_  
Interviewer's Signature and ID#

\_\_\_\_\_  
Date

If you have any questions about the study, you can contact:

Ms. Joanne Ogden  
Office of Substance Abuse  
159 State House Station  
Augusta, ME 04333  
(207) 287-2582

or

Ms. Jody Greene  
Research Triangle Park  
3040 Cornwallis Rd  
RTP, NC 27709  
(800) 334-8571 (extension 6746).

This study has been approved by RTI's Commity for the Protection of Human Subjects which is staffed by researchers, lawyers, and other community professionals, as well as a prison representative. If you have questions about your rights as a research participant, you can contact Dr. John A. Fairbank, Chairperson of the Human Subject Committee, RTI by calling 1-800-334-8571, extension 5983.



### Consent for Urine Specimen - Treatment Needs Among Adult Arrestees

Now that you have completed the interview, we would also like to ask you to participate in another component of the study. We are now asking you to give us a urine sample. The researchers will compare the results from the tests on this sample with the information you gave us in the interview. If you do not want to give us a urine sample, you do not have to. What ever you decide will not affect how you are treated by the police or the courts.

Your privacy will be respected, and information about you will be kept confidential. We are collecting urine specimens only for the purposes of this research. No one will tell the courts, the police, or anyone else, including yourself, how the urine tests come out. The specimen bottle will be given a code number. Your name will not be on the bottle, so the lab that does the tests will not know who you are. Your name will also not appear in any reports of the study results.

The Federal Government has issued a Certificate of Confidentiality to the researchers who are conducting this study. This certificate protects us from being forced to release any information in which you are identified, even under court order or subpoena. In addition, everyone on the research team who has access to private information must sign an agreement to safeguard the privacy of the people who take part in the study.

We have arranged for you to provide the urine specimen in private.

Your taking part in this study may help us learn about substance abuse treatment needs in Maine. However, giving us the specimen will not make the way you are treated by the police or the courts either better or worse.

That explains what this portion of the study is about. Do you have any questions?

Now I'd like to read the consent form to you. Because we want to be sure that your answers will be completely protected, I will sign my name here. My signature shows that you have given me your permission to do this interview, but will ensure that your answers are never associated with your name.

#### *Indication of Consent to Provide a Urine Specimen*

"The interviewer has read the information on this form to me, and I have had the opportunity to ask questions. I agree to give a urine specimen for this study. I understand I will receive an unsigned copy of this form."

\_\_\_\_\_  
Interviewer's Signature and ID#

\_\_\_\_\_  
Date

If you have any questions about the study, you can contact:

Ms. Joanne Ogden  
Office of Substance Abuse  
159 State House Station  
Augusta, ME 04333  
(207) 287-2582

or

Ms. Jody Greene  
Research Triangle Park  
3040 Cornwallis Rd  
RTP, NC 27709  
(800) 334-8571 (extension 6746).

This study has been approved by RTI's Committee for the Protection of Human Subjects which is staffed by researchers, lawyers, and other community professionals, as well as a prison representative. If you have questions about your rights as a research participant, you can contact Dr. John A. Fairbank, Chairperson of the Human Subject Committee, RTI by calling 1-800-334-8571, extension 5983.

## **APPENDIX C**

### **Standard Errors for Selected Tables**

**Exhibit 3.1SE Standard Errors for Exhibit 3.1: Percentage Reporting Tobacco, Alcohol, and Illicit Drug Use in the Lifetime, Past Year, and Past Month in the Maine Adult Arrestee Survey, by Gender: 1997**

Substance Used	Males			Females			Total		
	Lifetime	Past Year	Past Month	Lifetime	Past Year	Past Month	Lifetime	Past Year	Past Month
<b>Tobacco</b>	1.6	—	2.7	4.3	—	6.0	1.5	—	2.5
<b>Alcohol Use</b>	0.1	1.6	2.3	2.6	5.2	5.8	0.3	1.6	2.1
Heavy alcohol <sup>1</sup>	2.9	2.9	—	7.6	6.1	—	2.7	2.7	—
<b>Any Core Illicit Drug<sup>2</sup></b>	1.6	2.6	3.0	3.9	7.5	6.3	1.5	2.5	2.7
Marijuana/hashish	1.6	2.7	2.9	4.8	7.5	6.3	1.5	2.6	2.7
Hallucinogens	3.0	2.3	1.6	7.4	0.5 <sup>†</sup>	*	2.8	2.1	1.4
Cocaine	3.0	2.7	1.8	7.6	4.8	1.8	2.8	2.4	1.6
Heroin/opiates	2.7	2.1	1.4	6.0	3.1	0.4 <sup>†</sup>	2.5	1.9	1.3
<b>Other Illicit Drug<sup>3</sup></b>	3.0	—	2.0	7.3	—	4.6	2.7	—	1.8
Amphetamines	2.9	—	0.6	7.0	—	0.8	2.7	—	0.5
Barbiturates	2.5	—	1.7	5.5	—	*	2.3	—	1.5
Quaaludes	2.1	—	0.7	5.2	—	*	1.9	—	0.7
Valium	2.7	—	1.5	7.0	—	3.0	2.6	—	1.4
Darvon	2.1	—	0.6	4.3	—	2.5	1.9	—	0.6
Methadone	1.5	—	0.4	3.9	—	2.6	1.4	—	0.5
Inhalants	1.8	—	0.4	5.2	—	*	1.7	—	0.4
Methamphetamine	2.5	—	0.3	5.2	—	*	2.3	—	0.2
<b>Any Core Illicit Drug or Other Illicit Drug</b>	1.5	—	3.0	3.8	—	6.9	1.4	—	2.7

Note: Data entries are weighted percentages.

— Not available.

\*No standard error. Proportion being estimated in cell is zero.

<sup>†</sup> Met or exceeded criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>For lifetime, defined as five or more drinks per day (four or more for women) weekly during a period in the lifetime or indicating heavy alcohol consumption in the past year. For

the past year, defined as consuming on average five or more drinks in a 24-hour period (four or more for women) and use of alcohol 50 or more times in the past year.

<sup>2</sup>Use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates) at least once.

<sup>3</sup>Use of amphetamines, barbiturates, Quaaludes, Valium, Darvon, methadone, inhalants, or methamphetamine at least once.

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 3.2SE Standard Errors for Exhibit 3.2: Percentage Reporting Heavy Alcohol Use and Any Core Illicit Drug Use in the Past Year in the Maine Adult Arrestee Survey, by Gender and Selected Demographic Characteristics: 1997**

Demographic Characteristic	Heavy Alcohol <sup>1</sup>			Any Core Illicit Drug <sup>2</sup>		
	Male	Female	Total	Male	Female	Total
<b>Total Maine</b>	2.9	6.1	2.7	2.6	7.5	2.5
<b>Age (years)</b>						
18-24	4.8	*†	4.4	1.7	12.9†	2.1
25-44	3.8	8.7	3.5	3.6	9.7	3.4
45 or older	9.9†	14.9†	8.9	10.2†	17.8†	9.2
<b>Race/Ethnicity</b>						
White <sup>3</sup>	3.1	6.6	2.8	2.7	7.8	2.6
Nonwhite <sup>4</sup>	7.8	*†	7.1	9.2	24.3†	8.6
<b>Marital Status</b>						
Single, never married	3.7	6.6†	3.5	2.9	11.7†	2.8
Married/living with someone	6.3	5.8†	5.4	6.7	13.1†	6.0
Separated/divorced/widowed	6.9	13.4†	6.2	6.3	13.6†	5.8
<b>Education</b>						
Less than high school	5.1	11.8†	4.8	3.5	14.3†	3.6
High school	4.3	1.7†	3.9	3.5	10.7†	3.3
More than high school <sup>5</sup>	6.0	14.3†	5.6	6.5	14.0†	5.9
<b>Total Family Income</b>						
Under \$5,000	5.6	16.2†	5.3	3.4	5.4†	3.0
\$5,001 - \$15,000	4.6	7.5†	4.1	3.9	10.2†	3.7
\$15,001 or more	5.5	10.9†	5.2	5.7	4.8†	5.4

Note: Data entries are weighted percentages.

\*No standard error. Proportion being estimated in cell is zero.

† Met or exceeded criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Defined as consuming on average five or more drinks in a 24-hour period (four or more for women) and reporting use of alcohol 50 or more times in the past year.

<sup>2</sup>Use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates).

<sup>3</sup>White non-Hispanic.

<sup>4</sup>Includes black non-Hispanic, Hispanic, Asian or Pacific Islander, American Indian, Alaskan native, or other.

<sup>5</sup>Includes some college, college graduate, and higher.

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 3.3SE Standard Errors for Exhibit 3.3: Percentage Reporting Injection Drug Use in the Maine Adult Arrestee Survey, by Gender and Selected Demographic Characteristics: 1997**

Demographic Characteristic	Lifetime			Past 6 Months		
	Male	Female	Total	Male	Female	Total
<b>Total Maine</b>	2.3	5.9	2.2	1.2	2.5	1.1
<b>Age (years)</b>						
18-24	3.1	2.9 <sup>‡</sup>	2.8	2.4	* <sup>‡</sup>	2.2
25-44	3.4	8.3	3.1	1.6	3.8 <sup>‡</sup>	1.5
45 or older	6.5	15.1 <sup>‡</sup>	6.0	1.2 <sup>‡</sup>	3.7 <sup>‡</sup>	1.1 <sup>‡</sup>
<b>Race/Ethnicity</b>						
White <sup>1</sup>	2.6	6.4	2.4	1.3	2.8	1.2
Nonwhite <sup>2</sup>	2.5	* <sup>‡</sup>	2.2	1.6 <sup>‡</sup>	* <sup>‡</sup>	1.4 <sup>‡</sup>
<b>Marital Status</b>						
Single, never married	2.9	8.0 <sup>‡</sup>	2.8	1.5	* <sup>‡</sup>	1.4
Married/living with someone	4.3	11.6 <sup>‡</sup>	4.1	4.0	8.1 <sup>‡</sup>	3.6
Separated/divorced/widowed	6.2	10.8 <sup>‡</sup>	5.5	0.9	* <sup>‡</sup>	0.7
<b>Education</b>						
Less than high school	4.6	13.7 <sup>‡</sup>	4.4	1.4	* <sup>‡</sup>	1.3
High school	3.5	6.9 <sup>‡</sup>	3.2	2.2	5.3 <sup>‡</sup>	2.1
More than high school	3.7	11.9 <sup>‡</sup>	3.7	1.0	* <sup>‡</sup>	0.9
<b>Total Family Income</b>						
Under \$5,000	4.7	15.7 <sup>‡</sup>	4.6	3.2	10.5 <sup>‡</sup>	3.1
\$5,001 - \$15,000	4.2	7.5 <sup>‡</sup>	3.8	2.1	* <sup>‡</sup>	1.8
\$15,001 or more	2.6	10.3 <sup>‡</sup>	2.5	0.6	* <sup>‡</sup>	0.6

Note: Data entries are weighted percentages.

\*No standard error. Proportion being estimated in cell is zero.

<sup>‡</sup> Met or exceeded criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>White non-Hispanic.

<sup>2</sup>Includes black non-Hispanic, Hispanic, Asian or Pacific Islander, American Indian, Alaskan native, or other.

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 3.4SE Standard Errors for Exhibit 3.4: Percentage Reporting Multiple Substance Use in the Past Year in the Maine Adult Arrestee Survey, by Gender and Age: 1997**

Demographic Characteristic	Heavy Alcohol and at Least One Core Illicit Drug <sup>1</sup>			Two or More Core Illicit Drugs <sup>2</sup>		
	Male	Female	Total	Male	Female	Total
<b>Total Maine</b>	2.8	5.0	2.5	2.8	4.8	2.5
<b>Age (years)</b>						
18-24	4.8	*‡	4.4	4.8	2.9‡	4.7
25-44	3.7	7.4	3.4	3.5	6.7	3.2
45 or older	8.8	*‡	7.8	5.7	14.9‡	5.3

Note: Data entries are weighted percentages.

\*No standard error. Proportion being estimated in cell is zero.

‡ Met or exceeded criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Defined as consuming on average five or more drinks in a 24-hour period (four or more for females) and reporting use of alcohol 50 or more times in the past year, and any use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates).

<sup>2</sup>Use of two or more of the following drugs: marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates).

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 3.5SE Standard Errors for Exhibit 3.5: Comparison of the Past Year Prevalence of Substance Use Among the Maine Adult Arrestee Sample with the Adult Household Population in Maine: 1997**

<b>Substance Used/Age (Years)</b>	<b>Maine Adult Arrestee Survey</b>	<b>Maine Adult Household Population<sup>1</sup></b>
<b>Alcohol</b>		
18-25	2.8	1.8
26-34	2.7	1.4
≥35	2.6	1.1
<b>Marijuana</b>		
18-25	3.1	2.3
26-34	4.6	1.3
≥35	4.8	0.5
<b>Hallucinogens</b>		
18-25	4.4	1.3
26-34	3.8	0.5
≥35	1.5	0.2
<b>Cocaine</b>		
18-25	4.3	1.1
26-34	4.5	0.7
≥35	3.6	0.2

Note: Data entries are weighted percentages.

<sup>1</sup>Data are derived from the 1997 Maine Household Telephone Survey (Kroutil et al., 1998).

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 3.6SE Standard Errors for Exhibit 3.6: Percentage of the Maine Adult Arrestee Sample Testing Positive for Substance Use, by Gender: 1997**

Substance Tested	Male	Female <sup>‡</sup>	Total
<b>Alcohol</b>	4.7	12.3	4.4
<b>Any Core Illicit Drug<sup>1</sup></b>	5.0	9.4	4.6
Marijuana	5.0	9.3	4.6
Cocaine	2.6	*	2.3
Heroin (including other opiates)	2.5	1.6	2.2
Hallucinogens <sup>2</sup>	*	*	*
<b>Other Illicit Drug<sup>3</sup></b>	3.1	10.7	3.0
Amphetamine	*	*	*
Barbiturates	0.2	2.1	0.3
Quaaludes	*	*	*
Valium	3.1	9.6	2.9
Darvon	2.2	4.9	2.0
Methadone	0.5	2.7	0.5

Note: Data entries are weighted percentages.

\*No standard error. Proportion being estimated in cell is zero.

<sup>‡</sup> Met or exceeded criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Positive test for any of the following drugs: marijuana, cocaine, heroin, or phencyclidine (PCP).

<sup>2</sup>Only includes testing for PCP.

<sup>3</sup>Positive test for any of the following drugs: amphetamines, barbiturates, methaqualone, Valium, Darvon, or methadone.

Source: Maine Adult Arrestee Survey: 1997.



**Exhibit 3.7SE Standard Errors for Exhibit 3.7: Revised Prevalence Estimates for Past Month Substance Use in the Maine Adult Arrestee Sample, by Gender: 1997**

Substance Used	Male			Female <sup>‡</sup>			Total		
	% Self-reported <sup>1</sup>	% Under-reported <sup>2</sup>	Revised % <sup>3</sup>	% Self-reported <sup>1</sup>	% Under-reported <sup>2</sup>	Revised % <sup>3</sup>	% Self-reported <sup>1</sup>	% Under-reported <sup>2</sup>	Revised % <sup>3</sup>
<b>Alcohol</b>	4.1	*	4.1	9.3	7.1	6.6	3.8	0.9	3.7
<b>Any Core Illicit Drug<sup>4</sup></b>	5.0	3.4	4.9	12.3	9.1	12.8	4.6	3.2	4.6
Marijuana	5.0	2.8	5.0	12.3	9.1	12.9	4.6	2.7	4.7
Cocaine	3.5	0.6	3.5	*	*	*	3.1	0.6	3.1
Heroin/opiates	2.7	2.4	3.5	1.6	1.6	2.3	2.4	2.2	3.1
Hallucinogens <sup>5</sup>	2.4	*	2.4	*	*	*	2.1	*	2.1
<b>Other Illicit Drug<sup>6</sup></b>	3.8	2.2	4.2	9.9	5.5	10.8	3.5	2.0	3.9
Amphetamines	1.3	*	1.3	1.6	*	1.6	1.1	*	1.1
Barbiturates	3.0	*	3.0	*	2.1	2.1	2.6	0.2	2.7
Quaaludes	2.2	*	2.2	*	*	*	1.9	*	1.9
Valium	2.2	3.1	3.6	7.1	7.2	9.6	2.1	2.8	3.4
Darvon	2.2	0.2	2.2	7.1	4.9	8.3	2.1	0.6	2.2
Methadone	0.5	*	0.5	2.7	1.6	3.2	0.5	0.2	0.6

Note: Data entries are weighted percentages.

\*No standard error. Proportion being estimated in cell is zero.

<sup>‡</sup> Met or exceeded criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Arrestees who reported using substance in the past month; expressed as percentage of total in gender category.

<sup>2</sup>Arrestees who denied using substance in the past month, but who tested positive for use of the substance; expressed as percentage of arrestees in gender category who denied use of substance in the past month.

<sup>3</sup>Arrestees who reported using substance in the past month and those who said they had not used but tested positive for the substance; expressed as percentage of total in gender category.

<sup>4</sup>Self-report includes any use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates) at least once in past year. Urinalysis results include positive test for any of the following drugs: marijuana, cocaine, heroin, or phencyclidine (PCP).

<sup>5</sup>Urinalysis only tested for use of PCP.

<sup>6</sup>Self-report includes any use of amphetamines, barbiturates, Quaaludes, Valium, Darvon, and methadone at least once in the past year. Urinalysis results include positive test for any of the following drugs: amphetamines, barbiturates, methaqualone, Valium, Darvon, or methadone.

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 4.2SE Standard Errors for Exhibit 4.2: Percentage Reporting Substance Use Dependence and Abuse in Their Lifetime and the Past Year in the Maine Adult Arrestee Sample, by Gender: 1997**

Dependence/Abuse	Alcohol		Any Core Illicit Drug <sup>1</sup>		Alcohol or Any Core Illicit Drug	
	Lifetime	Past Year	Lifetime	Past Year	Lifetime	Past Year
<b>Males</b>						
Dependence <sup>2</sup>	3.0	2.9 <sup>3</sup>	2.8	2.4 <sup>3</sup>	2.9	3.0 <sup>3</sup>
Abuse <sup>4</sup>	2.3	2.1 <sup>5</sup>	0.9	1.3 <sup>5</sup>	2.1	2.2 <sup>5</sup>
<b>Females</b>						
Dependence <sup>2</sup>	7.3	7.6 <sup>3</sup>	6.9	3.3 <sup>3</sup>	7.2	7.5 <sup>3</sup>
Abuse <sup>4</sup>	*	* <sup>5</sup>	3.8 <sup>‡</sup>	2.5 <sup>5</sup>	*	* <sup>5</sup>

Note: Data entries are weighted percentages.

\*No standard error. Proportion being estimated in cell is zero.

<sup>‡</sup> Met or exceeded criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates).

<sup>2</sup>As diagnosed by the DSM-III-R (1987), experienced three or more of the mentioned problems and experienced some of these problems for a month or more on a number of occasions.

<sup>3</sup>Met lifetime DSM-III-R (1987) criteria for dependence on a given drug, used the drug in the past 12 months, and had one or more symptoms of dependence on that drug in the past 12 months.

<sup>4</sup>As diagnosed by the DSM-III-R (1987), never had a lifetime diagnosis of dependence, and continued to use a drug despite adverse consequences, or used in hazardous situations. Some of these problems have persisted for a month or more.

<sup>5</sup>Met lifetime DSM-III-R (1987) criteria for abuse of a given drug, used that drug in the past 12 months, and had one or more symptoms of abuse for that drug in the past 12 months.

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 4.3SE Standard Errors for Exhibit 4.3: Percentage Reporting Substance Use Problems in Their Lifetime and the Past Year in the Maine Adult Arrestee Sample Who Met Lifetime Dependence or Abuse Criteria: 1997**

Problem	Alcohol		Any Core Illicit Drug <sup>1</sup>		Alcohol or Any Core Illicit Drug	
	Lifetime	Past Year	Lifetime	Past Year	Lifetime	Past Year
Used larger amounts than intended	3.4	3.5	3.7	4.7	3.1	3.3
Unable to quit or cut down	3.3	3.3	3.8	4.0	2.9	3.2
Great deal of time using/getting over	3.5	3.4	3.7	4.7	3.2	3.3
Been high at work/school	3.4	3.4	4.3	4.4	3.2	3.3
Increased chances of getting hurt	2.3	3.3	3.7	4.6	2.0	3.1
Given up/reduced important activities	3.4	3.1	3.9	4.6	3.3	3.2
Continued use after emotional problems	3.4	3.4	3.9	4.6	3.2	3.3
Continued use after health problems	3.3	3.1	4.3	3.4	3.2	3.1
Continued use after family/work problems	2.3	3.1	4.1	4.6	2.0	3.0
Used more for same effect	3.3	3.5	3.6	4.6	2.9	3.3
Had withdrawal	3.5	3.3	4.2	4.4	3.2	3.3
Used to prevent withdrawal	3.5	3.2	4.7	4.4	3.4	3.3
Dependence <sup>2</sup>	2.9	3.2 <sup>3</sup>	2.6	4.7 <sup>3</sup>	2.6	3.1 <sup>3</sup>
Abuse <sup>4</sup>	2.9	2.8 <sup>5</sup>	2.6	3.1 <sup>5</sup>	2.6	2.6 <sup>5</sup>

Note: Data entries are weighted percentages.

<sup>1</sup>Use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates).

<sup>2</sup>As diagnosed by the DSM-III-R (1987), experienced three or more of the mentioned problems and experienced some of these problems for a month or more on a number of occasions.

<sup>3</sup>Met lifetime DSM-III-R (1987) criteria for dependence on a given drug, used the drug in the past 12 months, and had one or more symptoms of dependence on that drug in the past 12 months.

<sup>4</sup>As diagnosed by the DSM-III-R (1987), never had a lifetime diagnosis of dependence, and continued to use a drug despite adverse consequences, or used in hazardous situations. Some of these problems have persisted for a month or more.

<sup>5</sup>Met lifetime DSM-III-R (1987) criteria for abuse of a given drug, used that drug in the past 12 months, and had one or more symptoms of abuse for that drug in the past 12 months.

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 4.4SE Standard Errors for Exhibit 4.4: Percentage of the Maine Adult Arrestee Sample in Need of Alcohol or Illicit Drug Use Treatment or Intervention in the Past Year, by Gender: 1997**

Measure	Male	Female	Total
<b>In Need of Treatment<sup>1</sup></b>			
Alcohol <sup>2</sup>	2.9	7.6	2.7
Any core illicit drugs <sup>2,3</sup>	2.7	6.1	2.5
Either alcohol or illicit drugs	2.7	7.3	2.6
<b>In Need of Treatment or Intervention<sup>1</sup></b>			
Alcohol <sup>2</sup>	2.6	7.4	2.5
Any core illicit drugs <sup>2,3</sup>	3.0	6.5	2.7
Either alcohol or illicit drugs	2.4	6.8	2.2

Note: Data entries are weighted percentages.

<sup>1</sup>Definitions of treatment and intervention need are given in Section 4.1.

<sup>2</sup>Respondents who qualified as in “need of treatment” based only on having received treatment in the past 12 months (i.e., no dependence/abuse in past year or current problem pattern of use) are not considered to be in need of services for alcohol-only or drug-only percentages because the questionnaire did not specify type of substance for which treatment was received.

<sup>3</sup>Use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates).

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 4.5SE Standard Errors for Exhibit 4.5: Percentage of the Maine Adult Arrestee Sample in Need of Treatment or Intervention, by Age and Gender: 1997**

Measure	Male	Female	Total
<b>In Need of Treatment<sup>1</sup></b>			
18-24	4.4	15.0 <sup>‡</sup>	4.4
25-44	3.7	8.8	3.4
45 or older	8.9	16.9	8.1
Total	2.7	7.3	2.6
<b>In Need of Treatment or Intervention<sup>1</sup></b>			
18-24	3.7	15.0 <sup>‡</sup>	3.8
25-44	3.3	7.5	3.0
45 or older	7.8	10.3 <sup>‡</sup>	6.9
Total	2.4	6.8	2.2

Note: Data entries are weighted percentages.

<sup>‡</sup> Met or exceeded criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Definitions of treatment and intervention need are given in Section 4.1.

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 4.6SE Standard Errors for Exhibit 4.6: Percentage of the Maine Adult Arrestee Sample Who Received Treatment in the Lifetime and the Past Year, by Gender: 1997**

Measure	Lifetime <sup>1</sup>			Past Year <sup>1</sup>		
	Male	Female	Total	Male	Female	Total
<b>Any Treatment<sup>2</sup></b>	2.9	7.6	2.7	2.5	7.6	2.4
Detoxification	2.3	7.7	2.3	1.9	7.0	1.9
Residential treatment	2.6	7.7	2.5	1.6	7.3	1.7
Halfway house	1.5	5.0	1.5	0.9	1.9	0.8
Outpatient treatment	2.7	7.1	2.5	2.3	7.0	2.2
<b>Other Forms of Intervention<sup>3</sup></b>	2.9	7.6	2.7	2.6	7.4	2.5
Self-help groups	2.8	7.7	2.6	2.3	7.3	2.2
Counseling from doctor, psychologist, social worker	2.1	6.3	2.0	1.7	5.4	1.6
Pastoral counseling	1.9	6.2	1.8	1.8	5.2	1.7
<b>Any Treatment or Intervention<sup>4</sup></b>	3.0	7.6	2.8	2.8	7.6	2.6

Note: Data entries are weighted percentages.

<sup>1</sup>Questions about treatment history were not asked of respondents who were lifetime abstainers of alcohol or other drugs.

<sup>2</sup>Includes detoxification, residential treatment, halfway house services, or outpatient treatment.

<sup>3</sup>Includes substance abuse counseling through a mental health provider, attendance at self-help groups, receipt of pastoral counseling for substance abuse, or participation in programs for people arrested or convicted of operating under the influence (OUI)

<sup>4</sup>Any treatment, as defined in footnote 2, or any other form of intervention, as defined in footnote 3.

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 4.7SE Standard Errors for Exhibit 4.7: Percentage of the Maine Adult Arrestee Sample in Need of Alcohol or Any Core Illicit Drug Use Treatment Who Received Treatment or Intervention in Their Lifetime and the Past Year, by Gender: 1997**

Measure	Lifetime <sup>1</sup>			Past Year <sup>1</sup>		
	Male	Female	Total	Male	Female	Total
<b>Any Treatment<sup>2</sup></b>	3.6	7.4	3.4	3.4	8.9	3.3
Detoxification	3.2	8.8	3.1	2.7	10.3 <sup>‡</sup>	2.7
Residential treatment	3.4	8.8	3.3	2.3	10.4 <sup>‡</sup>	2.5
Halfway house	2.2	8.1	2.1	1.3	3.2 <sup>‡</sup>	1.2
Outpatient treatment	3.5	10.3 <sup>‡</sup>	3.3	3.2	10.3 <sup>‡</sup>	3.1
<b>Other Forms of Intervention<sup>3</sup></b>	3.6	8.3	3.4	3.4	10.1 <sup>‡</sup>	3.3
Self-help groups	3.6	8.7	3.4	3.1	10.2 <sup>‡</sup>	3.0
Counseling from doctor, psychologist, social worker	2.7	9.8	2.6	2.2	8.8	2.2
Pastoral counseling	2.6	9.8 <sup>‡</sup>	2.6	2.5	8.4 <sup>‡</sup>	2.4
<b>Any Treatment or Intervention<sup>4</sup></b>	3.5	7.4	3.3	3.6	8.6	3.4

Note: Data entries are weighted percentages.

<sup>‡</sup> Met or exceeded criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Questions about treatment history were not asked of respondents who were lifetime abstainers of alcohol or other drugs.

<sup>2</sup>Includes detoxification, residential treatment, halfway house services, or outpatient treatment.

<sup>3</sup>Includes substance abuse counseling through a mental health provider, attendance at self-help groups, receipt of pastoral counseling for substance abuse, or participation in programs for people arrested or convicted of operating under the influence (OUI).

<sup>4</sup>Any treatment, as defined in footnote 2, or any other form of intervention, as defined in footnote 3.

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 4.8SE Standard Errors for Exhibit 4.8: Percentage of Met and Unmet Demand for Treatment Services in the Past Year in the Maine Adult Arrestee Sample, by Gender: 1997**

Measure	Male	Female	Total
<b>Received Treatment or Intervention</b>			
Treatment <sup>1</sup>	2.5	7.6	2.4
Intervention <sup>2</sup>	2.6	7.4	2.5
Any treatment or intervention <sup>3</sup>	2.8	7.6	2.6
<b>Unmet Demand</b>			
Wanted additional services <sup>4</sup>	2.0	5.7	1.9
Felt the need for treatment, but did not receive	1.1	0.5 <sup>‡</sup>	0.9
Any unmet demand <sup>5</sup>	2.1	5.4	2.0

Note: Data entries are weighted percentages.

<sup>‡</sup> Met or exceeded criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Received detoxification, residential treatment, halfway house services, or outpatient treatment.

<sup>2</sup>Attended self-help group, received counseling from doctor, psychologist, or social worker, or received pastoral counseling.

<sup>3</sup>Received any treatment or other forms of intervention in past 12 months for alcohol or other drug abuse, as described in footnotes 1 and 2.

<sup>4</sup>Received at least some substance abuse services for alcohol or drug abuse, but wanted additional services.

<sup>5</sup>Wanted additional treatment or other services in the past 12 months, or felt the need for treatment in the past 12 months, but did not receive assistance.

Source: Maine Adult Arrestee Survey: 1997.



**Exhibit 4.9SE Standard Errors for Exhibit 4.9: Percentage of Unmet Demand for Treatment Services in the Past Year in the Maine Adult Arrestee Sample, by Age and Gender: 1997**

Age (years)	Male	Female	Total
18-24	3.7	*‡	3.4
25-44	2.8	7.7	2.6
45 or older	6.8	15.1‡	6.2

Note: Data entries are weighted percentages. Unmet demand was measured by self-reports that an arrestee wanted additional treatment or other services in the past 12 months, or felt the need for treatment in the past 12 months, but did not receive assistance.

\*No standard error. Proportion being estimated in cell is zero.

‡ Met or exceeded criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 4.10SE Standard Errors for Exhibit 4.10: Past Year Criminal Justice  
Involvement in the Maine Adult Arrestee Sample, by Use of Alcohol or  
Illicit Drugs in the Past Year: 1997**

Type of Arrest/Charge	Alcohol			Any Core Illicit Drug	
	No Use	Moderate Use <sup>1</sup>	Heavy Use <sup>2</sup>	No Use	Any Use <sup>3</sup>
<b>Number of Arrests</b>					
0	9.7 <sup>‡</sup>	3.0	3.0	4.5	2.4
1	10.3 <sup>‡</sup>	3.8	4.1	5.0	3.2
2 or more	7.7	3.6	4.4	4.3	3.3
<b>Current Charge of Arrest</b>					
Crimes against persons	8.7	2.7	3.5	3.4	2.6
Crimes against property	7.7	2.8	3.2	3.4	2.5
Substance-related crimes	7.3 <sup>‡</sup>	2.0	2.1	2.6	1.8
Miscellaneous crimes	10.2 <sup>‡</sup>	3.7	4.3	4.7	3.3

Note: Data entries are weighted percentages.

<sup>‡</sup> Met or exceeded criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Consumed alcohol in the past year but did not qualify for heavy use.

<sup>2</sup>Five or more drinks in a 24-hour period (four for females) 50 or more times in the past year.

<sup>3</sup>Use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates).

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 4.11SE Standard Errors for Exhibit 4.11: Past Year Criminal Justice  
Involvement in the Maine Adult Arrestee Sample, by Need for Treatment  
or Intervention in the Past Year: 1997**

Type of Arrest/Charge	Service Needs, Past 12 Months			
	No Need for Treatment	Need for Treatment <sup>1</sup>	No Need for Treatment or Intervention	Need for Treatment or Intervention <sup>2</sup>
<b>Number of Arrests</b>				
0	4.5	2.1	5.3	2.3
1	4.6	3.4	5.9	3.1
2 or more	4.3	3.4	5.4	3.1
<b>Current Charge of Arrest</b>				
Crimes against persons	3.5	2.6	4.8	2.3
Crimes against property	3.4	2.5	4.5	2.3
Substance-related crimes	3.0	1.6 <sup>‡</sup>	3.7	1.6 <sup>‡</sup>
Miscellaneous crimes	4.7	3.3	5.9	3.0

Note: Data entries are weighted percentages.

<sup>‡</sup>Met or exceeded the criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Need for treatment related to use of alcohol or other drugs. Criteria for establishing need for treatment are discussed in Section 4.1.

<sup>2</sup>Need for treatment or intervention related to use of alcohol or other drugs. Criteria for establishing need for treatment are discussed in Section 4.1.

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 4.12SE Standard Errors for Exhibit 4.12: Number of Sexual Partners in the Past Year Among the Maine Adult Arrestee Sample, by Use of Alcohol, Illicit Drugs, and Past 6-Month Injection of Drugs: 1997**

Number of Sexual Partners	Alcohol			Any Core Illicit Drugs		Injection of Drugs	
	No Use	Moderate Use <sup>1</sup>	Heavy Use <sup>2</sup>	No Use	Any Use <sup>3</sup>	No Use	Any Use <sup>‡</sup>
0	9.7	1.5	1.3	3.1	1.4	1.4	*
1	10.2 <sup>‡</sup>	3.8	4.3	4.9	3.2	2.8	13.7
2	2.8	3.0	3.3	3.5	2.6	2.2	*
3 or more	6.2	3.6	4.2	3.5	3.2	2.6	13.7

Note: Data entries are weighted percentages.

\*No standard error. Proportion being estimated in cell is zero.

<sup>‡</sup> Met or exceeded criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Consumed alcohol in the past year but did not qualify for heavy use.

<sup>2</sup>Consumed on average five or more drinks in a 24-hour period (four for females) and reported using alcohol 50 or more times in the past year.

<sup>3</sup>Use of marijuana (including hashish), hallucinogens, cocaine (including crack), or heroin (including other opiates).

Source: Maine Adult Arrestee Survey: 1997.

**Exhibit 4.13SE Standard Errors for Exhibit 4.13: Number of Sexual Partners in the Past Year in the Maine Adult Arrestee Sample, by Need for Treatment or Intervention in the Past Year: 1997**

Type of Sexual Partners	Service Needs, Past 12 Months			
	No Need for Treatment	Need for Treatment <sup>1</sup>	No Need for Treatment or Intervention	Need for Treatment or Intervention <sup>2</sup>
0	2.8	1.4 <sup>‡</sup>	3.5	1.4
1	4.8	3.3	5.9	3.1
2	3.9	2.5	4.4	2.4
3 or more	3.8	3.3	4.6	3.0

Note: Data entries are weighted percentages.

<sup>‡</sup> Met or exceeded criteria for assigning an estimation caveat. See Appendix D for complete explanation of the criteria.

<sup>1</sup>Need for treatment related to use of alcohol or other drugs. Criteria for establishing need for treatment are discussed in Section 4.1.

<sup>2</sup>Need for treatment or intervention related to use of alcohol or other drugs. Criteria for establishing need for treatment are discussed in Section 4.1.

Source: Maine Adult Arrestee Survey: 1997.

## **APPENDIX D**

### **Caveat Criteria for Prevalence Estimates**



## Appendix D

### Caveat Criteria for Prevalence Estimates

This appendix describes the criteria used in this report to identify unreliable prevalence estimates (i.e., rates that need to be used with great caution because they are based on small sample sizes or have large sampling errors). In defining criteria for deciding how to identify unreliable estimates, important goals are to be able to identify them readily in tables and to have criteria that can be easily incorporated into software for producing tables.

One criterion that has been used in national surveys (e.g., the National Household Survey on Drug Abuse [NHSDA] prior to 1990) is to suppress (or to specially identify but not suppress) estimates if they have a relative standard error (RSE) greater than or equal to 50% of the prevalence estimate. The RSE is computed by dividing the standard error of the estimate by the estimate itself. That is,

$$\text{RSE} = \text{SE}(p)/p$$
, where  $p$  is the estimated proportion, and  $\text{SE}(p)$  denotes the standard error of the proportion  $p$ .

Although the 50% RSE criterion is easy to implement and understand, it has some undesirable properties, particularly for small estimates. Specifically, the criterion imposes a very strict requirement on small prevalence estimates, but represents a very lax requirement with large ones. That is, small prevalence estimates must have relatively large sample sizes to avoid being identified as unreliable, but large estimates allow for much smaller sample sizes. Given that most drug use and need for treatment estimates are likely to be small, a criterion that imposes stringent sample size requirements on small estimates would be less desirable.

Because of the limitation of the 50% RSE criterion, a different approach was used for the 1997 Maine Adult Arrestee Survey report. The criteria used in this report are based on (a) a sample size requirement, and (b) the RSE of the natural log of the estimate. The criteria specified that estimates should be identified as unreliable and displayed with a double dagger or ‡ in tables when:

- (a) the number of cases in the *denominator* was less than 30; or
- (b) if an estimate was based on 30 or more cases in the denominator, it failed to pass the rule below, using the RSE of the natural log of the estimate  $p$ , where  $p$  is a proportion.



If an estimate was based on 30 or more cases in the denominator, the criteria specified that the estimate should be identified as unreliable if:

$$\begin{aligned} \text{RSE} [-\ln(p)] &> .275 \quad \text{for } p \leq .5 \\ \text{RSE} [-\ln(1-p)] &> .275 \quad \text{for } p > .5 \end{aligned}$$

For computational purposes, note that  $\text{RSE}[-\ln(p)] = \text{RSE}(p)/[-\ln(p)] = \text{SE}(p)/[-p \ln(p)]$ , where  $\text{SE}(p)$  denotes the standard error of  $p$ , the estimated proportion.<sup>1</sup>

In addition, note that the sample size requirement for identifying unreliable estimates applied to the number of cases in the *denominator*, not the number of cases in the *numerator*. For example, if fewer than 30 respondents in the entire sample (e.g.  $n = 4,042$ ) reported a particular behavior (e.g., use of heroin or other opiates in the 12 months prior to the survey), the estimate could still be considered reliable if it passed the requirement based on the RSE of the natural log of the estimate.

Statisticians at the Research Triangle Institute (RTI) developed the criterion based on the RSE of the natural log of the estimate through their work on the NHSDA and the Washington, DC, Metropolitan Area Drug Study (DC\*MADS), a comprehensive study of drug use and related issues in that metropolitan area.

The criterion based on the RSE of the natural log is more liberal with regard to reporting smaller estimates, but is more stringent with regard to larger estimates. Under the criterion based on the natural log of the RSE, for example, prevalence estimates of 1% would require a sample size of 61 to be presented without a caveat regarding reliability. In comparison, the criterion based on  $\text{RSE}(p) > .50$  would require an effective sample size of 400 respondents to present percentages of approximately 1% without a caveat.

As noted above, estimated percentages that failed to pass the criteria listed above are shown marked with a ‡ in the tables. The corresponding standard errors also are shown with ‡ in the corresponding standard error tables (see Appendix C). In situations where a population *count* was shown (i.e., estimated number of adults in the Maine arrestee population showing a characteristic of interest), the caveat criteria specified that the estimated number also would be

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<sup>1</sup>Preliminary analyses identified some situations where estimates would be identified as unreliable due to small sample sizes. In these situations, categories were sometimes collapsed to increase the effective sample size and improve the precision of estimates. For example, there was only a small number of nonwhite respondents in the entire sample (see Table 2.1). Consequently, estimates for nonwhites that were further subdivided by both age group and gender often did not have adequate precision due to small sample sizes.

identified as unreliable if the corresponding proportion of the population showing this characteristic did not meet the criteria.

An additional convention was implemented for *very small* percentages (i.e., < 0.05% for estimates shown to the nearest tenth of a percentage; < 0.005% for estimates shown to the nearest hundredth of a percentage) that passed the caveat criteria, but would round to zero if shown to a given level of precision in the tables. These estimates were shown as an asterisk (\*). In this situation, the corresponding standard error also was shown as an asterisk.

In addition, if an estimated percentage was less than 0.05% (for estimates shown to the nearest tenth of a percentage) or less than 0.005% (for estimates shown to the nearest hundredth of a percentage), any accompanying estimate of the number of people showing this characteristic was also shown with an asterisk. This was done in order to minimize confusion or misunderstanding that could occur if an estimated percentage was reported as rounding to zero, but had been shown as having an estimated number of people.